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A Critique of Harvey's Model of Urban Land Rent

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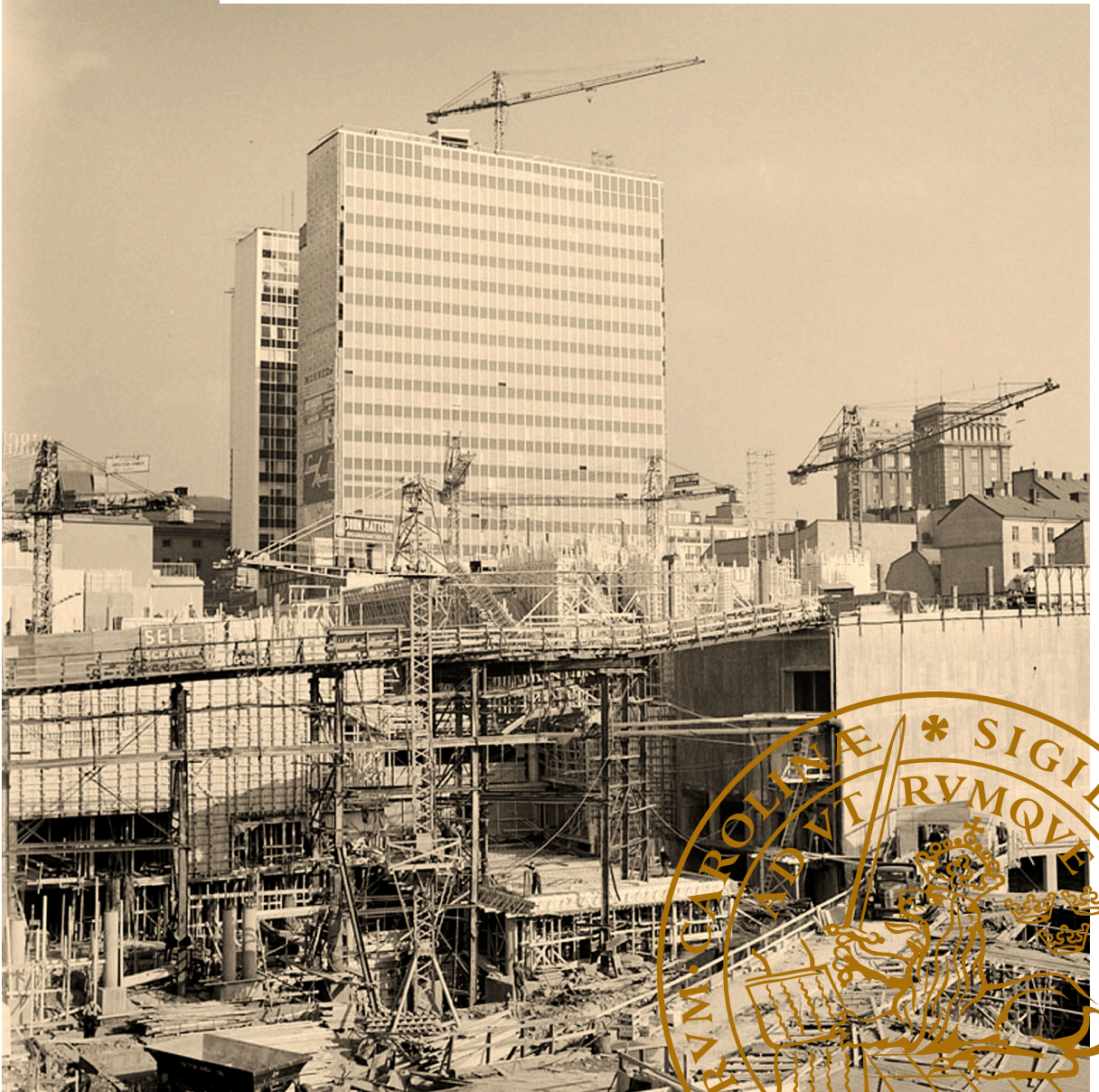
LAND RENT, CAPITAL, RATE OF PROFIT compares the explanatory power of Harvey's Spatial Monopoly Model of Land Rent (SMLR) with a proposed Turbulent Inter-Sectoral Model of Land Rent (TILR) in their analysis of economic urbanization processes by uncovering the SMLR's theoretical and empirical inconsistencies. The study argues that the SMLR suffers from the following empirical inconsistencies:

1) the model offers limited analytical tools for empirical research on rent rates, ceilings, and magnitudes;
2) the model offers inadequate economic mechanisms for macro-level patterns of rent creation and appropriation;
3) it offers an inadequate explanation for the historical contingency of macro and micro-level rent creation and appropriation;
4) it breaks with its structural starting points and does not offer a consistently endogenous structural analysis of rent creation and appropriation.

The TILR resolves these inconsistencies by incorporating an inter-sectoral and multi-scalar framework and bringing in the concept of absolute land rent, long dismissed by Harvey and Harvey-inspired urban geographers.

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Abstract

This study critically evaluates David Harvey's model of urban land rent and its centrality in his explanation of the material forces that underlie and limit urban land policies, strategies, planning decisions, and investment choices. Harvey emphasizes structural forces of capital in relating economic urbanization processes to uneven patterns of capitalist development, recurrent economic crises of overaccumulation, and the need to produce spaces of accumulation to absorb surplus capital that creates crises. He argues that the movement of capital (i.e., the mass of new investments) drives urbanization processes and that land rent constitutes a barrier to the free movement of capital from the primary circuit (i.e., productive investments) to the secondary circuit of capital (i.e., investments in built environments) and arises due to monopoly power relations on land markets. Harvey's Spatial Monopoly Model of Land Rent (SMLR) is empirically and theoretically compared with a proposed Turbulent Inter-Sectoral Model of Land Rent (TILR). The TILR argues that capital moves to sectors with excess (i.e., above-normal) rates of return. The inter-sectoral and intra-sectoral excess rates of return constitute land rent, and turbulent inter-sectoral competition maintains excess rates of return in rent-bearing sectors. The empirical portion of the monograph encompasses a bibliometric study of rent research and three empirical studies: the first two empirical studies compare the SMLR and the TILR in the US and Swedish housing and construction sectors using seminal case studies by Harvey and Eric Clark. The third study operationalizes the TILR on the Iranian housing sector.

It is argued that the SMLR suffers from the following theory-data anomalies: 1) above and beyond a monopoly pricing mechanism, the model offers limited analytical tools for empirical research on rent rates, ceilings, and magnitudes; 2) the model offers inadequate economic mechanisms for macro-level patterns of rent creation and appropriation; 3) it offers an inadequate explanation for the historical contingency of macro and micro-level rent creation and appropriation; 4) it breaks with its structural starting points and does not offer a consistently endogenous structural analysis of rent creation and appropriation.

In analyzing the relation between the rate of profit in manufacturing and construction sectors determining land rent, the TILR explains the source of rent with reference to fluctuations of profit rates rather than the monopoly pricing mechanism (the SMLR's crucial method). The TILR argues that long-term national (economic) structures, indicated by the falling rate of manufacturing (and aggregate) profit, determine the rate and ceiling of rent. The TILR improves on the SMLR by incorporating alternative analytical tools to measure and explain rent rates, ceilings, and magnitudes and resolves its theory-data anomalies by bringing in the concept of absolute rent, logically dismissed by Harvey and Harvey-inspired urban economic geographers. The concept of absolute rent is inconsistent with core assumptions of the SMLR's underlying theory of monopolistic competition, which relies on exogenous barriers to the free movement of capital to explain excess rates of return. That hinders the SMLR from incorporating the TILR's resolutions to the anomalies without inflicting further theoretical tensions. The TILR is rooted in an alternative interpretation of Marx's economic theory recently revived and advanced by Anwar Shaikh as the theory of turbulent competition. This theory allows the TILR to consistently incorporate the concept of absolute rent, integrate national economic trends and local economic relations, and provide a consistently endogenous structural explanation of rent creation and appropriation.

Key words: Urban Land Rent, Capitalist Urbanization, Rate of Profit, Absolute Rent, Spatial Monopoly Model of Land Rent, Turbulent Inter-Sectoral Model of Land Rent, David Harvey, Urban Economic Geography

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A Critique of Harvey's Model of Urban Land Rent

Ilia Farahani

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Introduction

I begin with a crucial question in urban economic geography concerning urbanization processes: what material forces underlie and limit urban land policies, strategies, planning decisions, and investment choices? Three approaches stand out. First is the technical (or planning) approach. It does not discuss economic forces but primarily refers to physical planning and architectural design. Second is the neoclassical approach that identifies some economic structural forces (that is, market forces) understood and analyzed in terms of the behavior of investors and preferences of consumers, shaped by the cost of land. Third is David Harvey's approach. He identifies broader economic structures than neoclassical analyses. These economic structures (or capital forces) are analyzed by relating economic urbanization processes to uneven patterns of capitalist development, recurrent economic crises of overaccumulation, and the need to produce spaces of accumulation to absorb surplus capital that created the crisis. And he contends that these capital forces are shaped by social relations determining the cost of land.

Harvey's model of urban land rent, in particular, is significant not least because a) he offers an explanatory structural alternative to neoclassical theories of urbanization in which land rent is central, and b) his model has implications for urban land policies and strategies specifically designed to address urban inequalities and benefit the urban poor. This underlines how indispensable Harvey's contribution to the field of urban economic geography is. But how internally consistent is Harvey's model, and how well does it explain the empirical evidence? As I discuss below, Harvey's model is internally consistent and explains some crucial empirical evidence. That much is evident in his intellectual superiority in the field for five decades. Nonetheless, in this monograph, I argue that it needs to be improved as there are empirical as well as theoretical tensions within his model.

In the following, I present Harvey's urban land rent model as the Spatial Monopoly Model of Land Rent (SMLR). His model a) aims to explain economic urbanization processes structurally and in close connection to processes of capital accumulation, b) identifies land rent as a central mechanism to explain the dynamics of investment in urban space, and c) aims to explain the processes of rent creation and appropriation structurally and in terms of the dynamics of capital. Harvey argues that the movement of capital, or the flow of new investments, drives urbanization processes, and land rent is a barrier to the free movement of capital from productive sectors to built environments and across space. The SMLR is rooted in an interpretation of Marx's economic theory informed by Paul Sweezy's

'monopolistic competition theory'. In this monograph, I counterpose the SMLR with another model of land rent rooted in an alternative interpretation of Marx's economic theory, informed by Anwar Shaikh's 'real (or turbulent) competition theory', conceptualized as the Turbulent Inter-Sectoral Model of Land Rent (TILR). The model is designed to explain, first and foremost, more empirical evidence (the empirical comparison of the two models is presented in Part II, and the theoretical comparison is presented in Part III).

A brief clarification of 'structural analysis' may be in order. A consistent structural analysis, as I try to adhere to throughout what follows, can easily be interpreted as ignoring the active role of conscious agents and prompt the allegation of determinism. There may have been such deterministic use of the term, but that is not how I treat a consistent structural analysis. On the contrary, the crucial point of focusing exclusively on the analysis of the internal ('endogenous') dynamics of structures is to provide the knowledge which is indispensable to the actions of the social agents if, in the face of durable social structures, they are going to be successful in bringing about their desired change. That is how several great thinkers of social theory, from Marx and Durkheim to Bourdieu, have regarded the role of structural analysis and is what I seek to emulate throughout this monograph. With significant simplification, in the interest of further clarification, one could say that mainstream economic analysis of urbanization processes and Harvey's contribution provide two very different accounts of the structural constraints that social agents face. Whether these social agents are policymakers or social movements, they must seriously take into account a coherent structural analysis to devise proper practices for realizing their desired change.

It is also important to clarify that my critique of Harvey is not textual, nor is it an overall critique of Harvey's entire intellectual project. That is, my critique is not concerned with the 'letter' of Harvey but with the explanatory power of (and tensions within) his political-economic framework to explain economic urbanization processes with urban land rent theory. Both SMLR and TILR are research programs under the broad umbrella of Marxism's (structural) research program. In my critique of Harvey's SMLR, applying the Lakatosian framework (see Chapter 2), I identify its core assumptions and auxiliary hypotheses to evaluate its explanatory power for urban economic geography and discuss (and resolve) its potential theoretical and empirical tensions.

The two models' responses to two crucial questions highlight the difference between them. Why does capital have to move in the first place? And, what is the source of land rent?

The SMLR's response to the first question is that relative locational advantage guarantees (monopolistic) excess returns on investments on land–and it is these excess returns that constitute rent. In response to the second question, the model argues that land rent is central to the process as a barrier to investments on land. It arises due to monopoly power relations limiting the free movement of capital (conceptualized as 'capital switching'). Class-monopoly power relations determine

the type and reach of local land regimes (including land policies and urban governance) to regulate investment in land markets.

The TILR's response is different. It argues that capital moves to sectors with above-normal rates of return. Note that the term 'above-normal' in this statement is to be defined and measured contextually. The inter-sectoral and intra-sectoral excess rates of return constitute land rent, and the turbulent inter-sectoral and intra-sectoral competition secures excess returns as the source of rent. I agree with Harvey that land rent is central to urbanization processes. But I argue that rent is not only a barrier, as it also could stimulate the movement of capital to compensate for a fall in the rate of profit (this argument is supported by empirical evidence and in concrete examples in Part II). The TILR further maintains that rent creation and appropriation are independent of monopolistic power relations. More important, both land rent and 'capital switching' are historically contingent. In other words, land rent could be minimized should the construction sector's advantage (i.e., excess sectoral rate of return) evaporate or the land be municipalized, or even nullified should the land be nationalized. New investments in built environments would not materialize should the excess sectoral return disappear.

The TILR does not suffer from the theoretical and empirical tensions found within the SMLR, as elucidated below. Above and beyond innovative conceptualizations, the SMLR offers the monopoly pricing mechanism as its primary empirical tool to explain the rise and the level of rent. The TILR, in contrast, explains not only the rise of rent but also measures and explains its rates, ceilings, and magnitudes in terms of differential inter-sectoral and intra-sectoral rates of return. Unlike the SMLR that explains land rent at the level of land ownership, the TILR explains land rent at the level of the whole economy, analyzing long-term national economic trends, which in turn determine rents. Unlike the SMLR, the TILR is sensitive to the historical contingency of rent creation and appropriation, and capital switching. The SMLR offers an inconsistently structural explanation of rent creation and appropriation using exogenous (monopoly and power) relations to explain the mechanisms of the structure. By contrast, the TILR offers a consistently endogenous structural explanation that relates urban spatial processes to capital accumulation dynamics endogenously, i.e., in terms of the dynamics of productive capital.

In other words, the TILR agrees with the SMLR that the dynamics of capitalism drive economic urbanization processes. It also agrees with the SMLR that land rent, in general, arises due to the existence of a class monopoly of land as a scarce and nonreproducible condition of production owned by private property. However, it disagrees with the SMLR on the determinants and fluctuations of land rent. The TILR argues that class monopoly relations only explain characteristics of land markets, while rent rates, ceilings, and magnitudes are determined by inter-sectoral and intra-sectoral competition, independent of class monopoly relations.

I argue that the concept of absolute rent is crucial to resolve the SMLR's empirical and theoretical tensions. The TILR improves on the SMLR by bringing back Marx's category of absolute rent, logically dismissed by Harvey and geographers using his

model, for being inconsistent with the SMLR, leading Harvey to explicitly reject its relevance and replace it with class-monopoly rent (Harvey 2010, 81; Harvey 2013 interview in Barnes and Sheppard 2019, 207). By bringing in the concept of absolute rent to the analysis of urbanization processes, the TILR explains broader economic structures that inform agential decisions, with implications for strategic investment choices in land and changes in land regimes crucial for both urban policymakers and urban social movements.

The research asks the following questions: How consistently structural are Harvey's Spatial Monopoly Model of Land Rent (SMLR) and the Turbulent Inter-Sectoral Model of Land Rent (TILR)? How do the two models explain rent creation and appropriation in terms of the dynamics of capital? Three subquestions follow these: How do the models explain the relationship between rent-bearing sectors and the rest of the economy at both macro and micro levels? What analytical tools do the two models offer? Finally, how do economic theories in the SMLR and the TILR models correspond to their operationalizations of rent theory?

Part I of the monograph comprises a brief introduction to rent theory, a presentation of the two models, my methodological strategy, a review of Harvey's model of rent, and a review of post-Harveyan rent debates and urban applications. Part II consists of a bibliometric study of rent research and the three empirical studies on the United States, Sweden, and Iran. Finally, Part III elaborates the discussion of the two models' theoretical foundations and a detailed presentation of the TILR.

PART I.
Capitalist Urbanization, Urban Geography, and Centrality of Land Rent

Chapter 1. Harvey and Land Rent Theory

The economic crisis of 2007-08, the Great Recession, triggered by the collapse of mortgage markets, was identified by millions of dispossessed citizens as an urban, particularly housing crisis. The pernicious impact of the crisis on the lives of the underprivileged speaks for itself. From massive household debt to widespread homelessness across the globe, the person on the street perceived the Great Recession not particularly as a capitalist crisis, not even as a financial crisis, but as an urban crisis. One of the Great Recession's immediate intellectual outcomes has been an increasing interest to rethink (and in some cases generate) concepts in urban geography. Many papers have been published since 2008, conceptualizing different forms of urban struggle and theorizing 'new' forms of urban uprisings and urban rage (Dikeç 2016; Dikeç and Swyngedouw 2017; Sutterlüty 2014). There has also been a growing interest in theories of economic crises and rethinking urbanization processes and their economic drivers such as land rent (Christophers 2016; Clark 2014; 2018; Haila 2015; Manning 2020; Park 2014; Slater 2017; Ward and Aalbers 2016). The project I report here belongs to the latter class.

The growing intellectual and academic interest in rent theory and the urban rent question thus corresponds to the urgency of responding to the urban crisis as an immediate outcome of the Great Recession. Note that the initial interest in modern rent theory also originated in a crisis (repealing Corn Laws in 1815), so was the case in the aftermath of the Oil Crisis of 1973. There is a longstanding political economy tradition in urban economic geography with land rent and economic crises at its center. This tradition, which provides the most prolific (or the most successful) analyses of "economic urbanization processes" (Friedmann 2002, 4) and current urban crises and struggles, is predominantly influenced by David Harvey's works.

Harvey has been deservedly applauded for dialectically relating economic urbanization processes under capitalism to capital accumulation dynamics, presenting a competing explanation to mainstream neoclassical approaches that relate urbanization processes to the dynamics of the market (i.e., basically the interplay of forces of supply and demand). He rejuvenated and advanced Luxemburg's theory of accumulation that argues "the capitalist process of accumulation is inherently dependent on dominating a non-capitalist 'other'" (Callinicos 2009, 36). Harvey elaborates that capitalism's need to exploit (and, if need be, invent) "a non-capitalist other" is an outcome of uneven geographies of

capitalist accumulation and a perpetual need for producing new spaces to fix recurrent overaccumulation crises. Therefore, unlike Luxemburg, Harvey does not reduce the 'other' to non-capitalist economies/nation-states. The 'other', for Harvey, represents spaces that, for whatever reason, are not currently on the market, such as public spaces, amenities, and commons.

Harvey (2003, 87-88) developed a theory of spatiotemporal fix (reconstructed in Chapter 3 below) "to the crisis-prone inner contradictions of capital accumulation" in response to "a chronic tendency within capitalism . . . to produce crises of overaccumulation". "Since it is the lack of profitable opportunities that lies at the heart of the difficulty [of surplus capital], the key economic (as opposed to social and political) problem lies with capital" (ibid. 88). "Geographical expansion and spatial reorganization" are named lucrative strategies to absorb surplus capital (ibid.). According to Harvey, "[s]ince geographical expansion often entails investment in long-lived physical and social infrastructures (in transport and communications networks and education and research for example), the production and reconfiguration of space relations provides one potent way to stave off, if not resolve, the tendency towards crisis formation under capitalism" (ibid. 88).

Land rent (and rent theory) holds a crucial position in Harvey's structural analysis of capitalist urbanization. The reason is somewhat straightforward: investments in land require a lease or acquisition, and rent determines the final price of land, thereby restricting the free flow of (the mass of) investments to built environments.

The superiority of Harvey over his contemporary heterodox urban geographers (e.g., Bruegel 1975; Clarke and Ginsburg 1975; Edel 1976; 1977; 1992; Ive 1974; Massey and Catalano 1978; Walker 1974; 1975;), methodologically speaking, is due to his successful attempt to consistently develop a structural model for urban political-economic geography capable of relating spatial differentiation and uneven geographies to capital accumulation processes. His model and framework have proven necessary for urban economic geographers following Harvey to (empirically) operationalize it for urban research.

1.1. Harvey and Land Rent Theory: Economic Structure and Policy

Inspired by Harvey's review and at the risk of simplification, let me briefly introduce rent theory and its crucial concepts and discuss how different (modern) rent theorists relate rent creation and appropriation to economic structures and policies[1].

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[1] For an overview of rent categories in Ricardo, Marx, and Harvey, see Appendix 1.

Harvey (2006 [1982]) begins his review of rent theory with the two foremost (modern) theorists of rent: David Ricardo and Karl Marx. Both Ricardo and Marx begin with the labor theory of value[2] and treat land as an especial commodity, which no labor is used to produce, yet it commands a price. Thus, the return on capital in any investment on land (rural or urban) is partly capitalized in the form of land rent. "All rent is the economic realisation of landed property, of the legal fiction 'by grace of which certain individuals have an exclusive right to certain parts of our planet'" (Marx 1991 [1894], 619 in Murray 1977, 113). Rent is defined as "that portion of the produce of the earth, which is paid to the landlord for the use of the original and indestructible powers of the soil" (Ricardo 2004 [1911], 33). Or, it is "a portion of the surplus value that capital produces [that] falls to the share of the landowner" (Marx 1991 [1894], 751).

"The rise of capitalism", Harvey (2006 [1982], 343) writes, "entailed the 'dissolution of the old economic relations of landed property' and their conversion to a form compatible with sustained accumulation". Modern landed property, therefore, differs from feudalist landed property in that in capitalism, "a) property rights could be bought and sold; b) the landlord was transformed from an active agent in production to an unproductive one in distribution; c) the landlord's payment in rent was no longer directly appropriated from agricultural labour, but received as a residual payment in cash from a capitalist farmer; d) landholding was stripped of its former political and social power derived from its direct role in production" (Murray 1977, 113).

Modern landed property, in other words, is defined as "a production system which achieves the real subjection of labour to capital (rather than to the landlord) and which liberates the land from the barriers that inhibit the development of the productive forces" (Harvey 2006 [1982], 345). This transition from pre-modern to modern landed property requires "the complete removal of the landowner from any direct power over the use of the land, over the labour power employed thereon, and over the capital advanced, in return for a money payment" (ibid.).

A particular result of ownership of land, rent is demanded by the landed proprietor for the capitalist's investment on land. That is to say, "the appropriation of rent is the economic form in which landed property is realized and that ground-rent, in turn, presupposes landed property" (Marx 1991 [1894], 772 in Harvey 2006 [1982], 343). At the plot level, rent levels are determined by variables such as soil fertility, mineral deposits, and in the construction sector, the relative locational advantage of the plot.

Ricardo argues rent exists when "two equal quantities of capital and labour" are employed in two plots with different levels of yields (Ricardo 2004 [1911], 36). He measures rent as a difference between the production costs of the best land in use and the regulating sectoral price (ibid.). At the aggregate level, rent is the difference between the costs of production on the worst and the best plots (ibid. 36). For each specific plot, rent is the difference between the costs of production on the worst land

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[2] As opposed to the price theory of value in mainstream economics.

that needs to be utilized to satisfy demand and the cost of production on the specific plot of land (ibid.). Ricardo contends, "because land is not unlimited in quantity and uniform in quality, and because, in the progress of population, land of an inferior quality, or less advantageously situated, is called into cultivation, that rent is ever paid for the use of it" (ibid. 35). In this case, rent levels "depend on the difference in the quality of [best and worst] portions of land" (ibid.). Ricardo concludes that "[w]ith every step in the progress of population, which shall oblige a country to have recourse to land of a worse quality, to enable it to raise its supply of food, rent, on all the more fertile land, will rise" (ibid.).

Both Ricardo and Marx analyze land rent structurally. That is, they are concerned with relating rent creation and appropriation to economic dynamics. For Ricardo, however, this process is less explicit. Rent creation, for him, is due to a non-economic, natural phenomenon, and its appropriation leads to a fall in aggregate profits. In other words, for Ricardo, rent is analyzed at the level of exchange, and it is market structures that shape rent relations.

Nevertheless, Ricardo provides ample material for both neoclassical and Marxian inferences. Marx treats rent in two levels of analysis. At the micro-level (i.e., at the level of land ownership), rent creation depends on technological and economic development. It depends on how historically developed agricultural technologies, such as fertilizers and combine harvesters, are, or how developed the regional economy is. At the macro-level (i.e., at the level of the whole economy), rent creation depends on inter-sectoral dynamics, which, at the same time, explains the historical contingency of rent creation at the macro-level. Rent rates could go as high as the difference between rates of return in the manufacturing and agriculture (and other rent-bearing) sectors. When that difference expands, all plots, even the marginal ones, yield rents, and when it diminishes, for instance, during a boom cycle for manufacturing profits, the excess sectoral profit that constitutes rent disappears. Therefore, at the macro level, Marx argues that rent creation and appropriation depend on the health of the whole economy and the competitive relationship between sectors. At the micro-level, he maintains that rent creation and appropriation depend on the development of sectoral conditions of production, which also depends on the overall health of the economy. And the knowledge of these structures informs agents' decisions and policy choices.

Harvey also begins with a structural framework in his operationalization of Marxian rent theory for urban geographic research. He articulates the 'natural' characteristics of urban land in terms of "relative locational advantage" (Harvey 2006 [1982], 389) or favored location. The type of investment is development and redevelopment in the construction sector. He contends that rent creation and appropriation in favored locations depend on the economic and geographical development of the surrounding areas, which he articulates in terms of relative space (ibid. 377). The (re)development of an area depends on the pressure coming from a recently (re)developed surrounding area, such as a recent development of transportation infrastructure or intensive investments in high-end residential or

commercial built environments that potentially appreciate land values of the entire region (ibid.). Harvey explains such pressure for redevelopment, structurally and with capitals' tendency to switch from the primary circuit (productive investments) to the secondary circuit (speculative investments and built environments) at the aggregate level to absorb surplus capital and compensate for overaccumulation crises (Harvey 1978; 1989; 2006 [1982]).

Harvey argues that land rent arises due to class monopoly relations over land and is levied due to a monopoly pricing mechanism, i.e., prices determined by a monopolistic manipulation of supply, on account of the exogenous monopolistic power of the landlord class. In other words, he explains the existence of land rent as such with class monopoly and the level of rent with the power of the landlord class to impose monopoly prices on land. Thus, Harvey breaks with his (economic) structural starting points, explains the mechanisms of rent creation and appropriation with power relations instead of capital forces, and, in the final analysis, is not consistently structural in his explanation of rent creation and appropriation in the capitalist city.

1.2.   Two Models of Land Rent for Analyzing Capitalist Urbanization

The two competing models I present here are predicated on Marx's economic theory. Part II presents empirical comparisons of the models, and Part III discusses their theoretical foundations. Here, the focus is on their methodological and conceptual similarities and differences. First, both models start with Marx and his structural analysis of the capitalist economy. Second, both aim to explain economic urbanization processes structurally and in close connection to processes of capital accumulation. Third, both identify land rent as a central mechanism to explain the dynamics of investment in urban space. Fourth, both models consider (class) monopoly ownership of land as a precondition and general characteristics of land rent. And finally, both aim to explain rent creation and appropriation processes structurally and in terms of the dynamics of capital. Nevertheless, as we will see in Part II, they relate differently to the empirical evidence.

1.2.1.   Harvey's Spatial Monopoly Model of Land Rent (SMLR)

Harvey explains the ways in which long-term trends and processes of capital accumulation create, shape, and transform space and existing spatial configurations. Land rent is central to this process as a barrier to the free movement of capital onto space and is significant in two stages. First, it drives (and limits) investments in processes of geographical development as the spatial expression of capital

accumulation in the form of differential rent I and II and class-monopoly rent (see Appendix 1.1 and 1.4). Second, it drives (and limits) investments in processes of production of space and spatial fix as the spatial solution to its impending crisis in the form of class-monopoly rent. Finance capital orchestrates the extraction of class-monopoly rent in this process.

According to the Spatial Monopoly Model of Land Rent (SMLR), urban land rent arises in response to a "relative locational advantage" (Harvey 2006 [1982], 389). Therefore, owners of plots in favored locations are entitled to rent as the relative price of land. The reason is somewhat intuitive. Units (residential or commercial) in those plots could have high monopoly prices, and investors could potentially gain above-normal (monopolistic) rates of return for their investment in the built environment in those areas. Excess returns in land markets are due to two factors. First, land is scarce and monopolizable, a consequence of capitalist social relations over the land (Harvey 1974b, 272); second, it is spatially fixed with relative permanence. Land rent, thus, appears as "a transfer payment" for the use of a scarce and spatially fixed asset (Harvey 1974a, 240).

Land rent is central to the analysis because it appears as a barrier to the free movement of capital (as the free flow of new investments), thereby becoming an economic rationale for investments in urban land markets determined by monopolistic excess returns (Harvey 1982). The starting point is the Lefevbrean thesis that in late capitalism, the secondary circuit of capital (i.e., construction, speculation, real estate investments) tends to supersede the primary circuit of capital (i.e., productive investments) (Lefevbre 2003 [1970]). Harvey develops a conceptual apparatus for Lefevbre's thesis as the capital switching thesis (Harvey 1974a). Capital switching is crucial in explaining economic mechanisms of the production of space in terms of the flow of capital onto land to fix overaccumulation crises spatially (Harvey 1978; 1985; 1989). He maintains that this tendency is realized due to excess profits present in the secondary circuit spaces. And this excess profit constitutes rent.

Crucial to the analysis, too, is the role of landed property. Since circulation and distribution hold a "strategic co-ordinating role" in capitalist accumulation and development (Harvey 2006 [1982], 331), the existence of the institution of landed property secures class-monopoly ownership of land at the aggregate level. Monopoly relations, therefore, limit the free movement of capital crucial for switching to the secondary circuit. Class monopoly secures the power of the landlord class to interfere with the free movement of capital by imposing monopoly prices and demanding rents. The level of this rent depends on the vigor of the landlord class to ensure the excess profit is maintained, and in that sense, it affects prices (ibid.). In the final analysis, rent is created as an outcome of a class conflict between a class of producers of housing (i.e., speculator-developers) and a class of consumers (i.e., tenants) (Harvey 1974a; 1976).

Along with these monopolistic power relations, spatial relations also preexist rent creation and appropriation processes. The SMLR analyzes these spatial relations via

the concept of relative space. Relative space explains the pressure put by spatial reconfigurations in the surrounding area on the development of the area under study. These spatial reconfigurations include the development of infrastructure, an abrupt upward change in the type of tenure, intensive investment in luxury commercial or residential development, and so on that put pressure on and eventually appreciate land values of the entire region and mount the expected productivity for individual investments (Harvey, 2006 [1982], 336). Thus, the relative space concept explains material preconditions of the interplay between differential rent I and II. The intensity of the development in the surrounding area is a function of regional economic development and class-monopoly power relations that govern it. Class-monopoly power relations determine the reach and type of local land regimes (including urban policies and governance) as regulatory mechanisms of investments in land markets.

As land in late capitalism becomes a financial asset, monopoly ownership of urban land appears as financial monopoly land ownership (ibid. 347). Financial instruments ensure that land as a fixed asset is liquidated. Liquidation is necessary for speculative investments in construction integral to the secondary circuit of capital. Financial institutions, for instance, manipulate land markets using various regulatory tools such as zoning restrictions, redlining, and so on. As interest-bearing capitals enter land markets, landowners attain financial tools to push for "the highest and best use" of land and appreciate potential returns (ibid. 368). The SMLR analyzes rent as an offshoot of the monopolistic competition between productive and speculator-developer capitals to secure above-normal profits on land use as a long-term response to overaccumulation crises.

The SMLR begins with a structural analysis of rent creation and appropriation by relating such processes to the dynamics of capital accumulation. In a decisive shift, however, the model breaks with its economic structural point of departure and follows an alternative methodological strategy to explain the source of rent and the movement of capital with exogenous mechanisms of monopoly and power relations. The model's proposed analytical tools for empirical (political-economic) analysis of land markets are limited in that they only explain the characteristics of rent and not its rates, ceilings, and magnitudes. Beyond innovative conceptualizations, the model's crucial analytical tools are the monopoly pricing mechanism to explain the rise of rent and the power of the landlord class to determine the level of rent. More importantly, the model fails to integrate micro-foundations and macroeconomic patterns dialectically and with economic mechanisms. Instead, the model formulates a structural yet somewhat temporally static (King 1989a; Anderson 2014) explanation for capital switching to relate micro-level spatial changes to macro-level economic relations. The model also lacks a macro-level mechanism required for a consistently endogenous structural analysis of land rents to explain rent creation and appropriation in terms of the dynamics of capital in the whole economy.

1.2.2. The Proposed Turbulent Inter-Sectoral Model of Land Rent (TILR)

The Turbulent Inter-Sectoral Model of Land Rent (TILR) improves on the SMLR by offering a conceptual apparatus that integrates long-term inter-sectoral and multi-scalar dynamics of capital. It, consequently, does not suffer from the above-mentioned theoretical and empirical tensions in the SMLR's explanation for the source of rent and the movement of capital. This inter-sectoral and multi-scalar framework allows the TILR to articulate an economic structural mechanism to explain rent creation and appropriation endogenously, i.e., in relation to the whole economy, and particularly the dynamics of productive capital.

In the TILR, rent represents "a deduction of value[3] produced elsewhere" in the economy (Murray 1977, 102). It is "a deduction from total social value, and is limited by the total value produced by labour" (ibid. 102). Landownership allows landlords to "extract surplus profit which in other circumstances would accrue to capital" (ibid. 102). Rent arises where there is an above-normal rate of return (e.g., in plots with more fertile soils). That is to say, the excess return for non-reproducible and monopolizable lower-cost conditions of production constitutes rent, particularly for non-regulating capitals operating with a mixture of lower profit rates for their higher-cost conditions of production (e.g., technology and machinery) and higher-profit rates for their lower-cost (non-reproducible) conditions of production.

The TILR views land rent as a relative price of land and measures it as a difference between value and price. Like other factors of production, the nature and patterns of this price are to be explained theoretically and in relation to the dialectical interrelationship between micro-foundations (many-capitals, i.e., the local level) and macro patterns (capital-as-such, i.e., the aggregate, national, level). Similar to this is wages as the price of labor or interest as the price of money. Individual firms negotiate a variety of figures for individual worker's wages. So do individual money lenders who negotiate their desirable interest rates, sometimes on a daily basis. Aggregate interest rates or wage rates regulate and determine the expected (or 'normal') levels of wages or interests for each enterprise, and wage and interest theories explain the nature of wage and interest rates at both aggregate and micro levels. So is the role of rent theory. Individual land prices are set at the micro-level and regulated at the macro-level. The latter determines the maximum and

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[3] Shaikh defines Marx's notion of value as integrated labor times, that is, "the labor required to produce the given commodity plus that required to produce its inputs and the inputs to its inputs, and so on" (Shaikh 2016, 20). He defines direct prices as "prices proportional to integrated labor times" (ibid. 21); relative price as "the vertically integrated unit labor cost associated with the production" of any two commodities (ibid. 69); production prices as "competitive relative prices generated by three essential outcomes: selling prices equalized across sellers, labor incomes equalized across workers, and profit rate equalized across regulating capitals, all equalizations being turbulent" (ibid. 381); natural prices as classical economists' equivalent for Marx's production prices (ibid. 194); and regulating prices as production prices set by the regulating capital as the frontier capital in each sector around which sectoral market prices gravitate (ibid. 380).

minimum expectations, above or below which the rate is considered abnormal by proprietors. And, rent theory explains the nature and patterns of rent creation and appropriation at micro and macro levels.

To analyze the rate, ceiling, and magnitude of rent, the TILR draws on Marx's critique of Ricardo. Ricardo analyzed (agricultural) rent in terms of the natural characteristics of the plot. That is, rent arises from the differential quality of land plots in terms of soil fertility; the least fertile land sets the regulating condition and the (regulating) price of the product, and the most fertile one gets an excess profit that constitutes rent, which he conceptualized as differential rent. In response, Marx first distinguished between potential scenarios of differential rent and argued that differential fertility could socially and historically be overcome by extending the land in use or intensifying its investment by using, for example, chemical fertilizers (Shaikh 2016). He also adds that Ricardo's analysis of land rent can only point to magnitudes and rates of rent at the micro-level, but not its macro-level rates, magnitudes, and ceilings. Macro-level rent rates, magnitudes, and ceilings can best be analyzed in a long-term competitive economic context, i.e., inter-sectoral dynamics. Marx conceptualizes this macro-level category, through which he relates rent creation and appropriation to broader economic structures as absolute rent. Inter-sectoral competition secures the excess sectoral profit in rent-bearing sectors that constitutes land rents and drives the movement of capital onto the land.

I define rent at the level of land ownership as micro-level and rent at the whole-economy level as macro-level. These micro and macro levels of rent are regulated by the state of competition within and between sectors (Fine 2019). Rent rates gravitate around regulating prices (Shaikh 2016, 330-337). Regulating prices are set by regulating conditions of production in the worst (or the least fertile) land in use (ibid. 330-337). And the state of competition equalizes the rates within and between sectors (ibid. 330-337). In other words, rent is "generated by evening out the price for the resultants of varying production costs", and is determined by inter-sectoral and intra-sectoral competition (Marx and Engels 2010 [1982], 262).

According to the TILR, land rent, at the macro-level, is created and regulated in response to inter-sectoral dynamics of capital. These inter-sectoral dynamics are measured as the differential sectoral profitability. The profitability (or the rate of return) is measured as net operating surplus divided by net stock of capital. The rate of return, then, is to be calculated for the manufacturing and the construction sectors. Their difference (i.e., higher profit rates in the construction sector) represents the macro-level rent rate.

The crucial point is that rent will be minimized if the manufacturing sector's profit rates do not fall below the construction sector's profit rates. As Edel (1976, 102) points out, rent creation and appropriation are historically contingent. That is, they depend on spatiotemporal contexts. The historical contingency of land rents is most typically present in the concept of absolute rent. Sandemose (2006, 363, emphasis in original) points out that the existence of absolute rent for Marx is not absolute; "[the] main point is that it is necessary to prove its *possibility*." That

possibility depends on long-term inter-sectoral competitive relations in the whole economy. Rent rates, at the macro-level, fluctuate as the manufacturing profit rates fluctuate. In other words, rent rates fluctuate in response to the fluctuation of rates of return in the two sectors.

This historical contingency also applies to capital switching. Switching from productive investment to investment in built environments needs to be contextualized. It depends on the inter-sectoral competition and the fluctuations of sectoral rates of return. However, a retrospective analysis of rates of return on its own cannot explain the process empirically. To empirically explain the process, incremental profit rates need to be analyzed. Incremental profit rates, measured as gross profits divided by lagged gross investment, explain the rationale behind the most recent investment decisions. The capital switching thesis conceptually explains the shift in investments and the direction of the capital flow. But it needs to be historicized and concretized, using incremental profit rates, to explain the processes empirically.

That said, as Edel (1976, 119) argues, absolute rent is a macro-level concept, and it is not designed by Marx to explain micro-level fluctuations of market prices of land and improvements built on it. The relation between the category of absolute rent and micro-level magnitudes and rates of rent (explained by Marx through differential rent I and II) is similar to the relation between value and prices of production. It explains long-term structural patterns that govern fluctuations of rent rates and magnitudes at the micro-level. And micro-level rates and magnitudes gravitate around these long-term structural patterns.

Absolute rent and differential rent I and II operate in two scales: absolute rent at the macro (national) and differential rent I and II at the micro (regional) level. When absolute rent arises, plots with higher fertility or relative locational advantage yield absolute rents on top of differential rent I and II (depending on their extensive or intensive investment strategies), and plots with inferior fertility or relative locational advantage also yield rents, even though differential rent I and II are zero. When absolute rent is minimized, plots with higher fertility or relative locational advantage *could* still yield differential rent I and II. But rents in plots with inferior features will be zero. Generally, differential rent I and II (as investment strategies) arise in plots with higher relative locational advantage, provided both spatial and regional development allows them, and the regional intra-sectoral competition determines the extensity and intensity of both.

By bringing in the concept of absolute rent into the analysis, the TILR does not need the mediation of exogenous monopoly power relations to relate rent creation and appropriation to the dynamics of capital. It offers economic mechanisms to connect macro and micro-level tendencies and acknowledges the historical contingency of rent creation and appropriation through a constantly turbulent interaction between sectors at both macro and micro levels. Fluctuations of land-based investment in the TILR are endogenously related to the dynamics of productive capital. It provides specific (political-economic) methods for measuring

and explaining rent rates, ceilings, magnitudes, and capital switching. The model, therefore, provides a consistently endogenous structural explanation of rent creation and appropriation missing in the SMLR. That, by no means, implies that the TILR relies on a deterministic structural explanation. On the contrary, the model implies that agents' knowledge of economic structures informs their actions and policy choices. And as the reader shall see in Part III, to do so, the TILR needs to incorporate an alternative interpretation of Marx's economic theory.

Chapter 2. The Methodological Strategy and the Research Design

This chapter presents the methodological foundations of my critique of the SMLR. The framework that characterizes my methodological strategy aims to appreciate the explanatory power of the two models and the economic theories informing them while, at the same time, realistically provides objective criteria for judging between them. Immanent critique and Lakatos's methodology of scientific research programs provide the building blocks for such a framework. Immanent critique epitomizes the methodological strategy, and Lakatos's methodology of scientific research programs brings forth an economized and systematic procedure for theoretical comparison and progressive problem-solving.

2.1.   Immanent Critique

Immanent critique is a methodological framework with Hegelian and Marxian roots, most characteristically developed by Marx (1970 [1843]) from Hegel's critique of Kant that aims to dialectically go beyond "the dichotomy of descriptive and prescriptive analysis" (Buchwalter 2012, 41). Its critique is immanent (internal) in the sense that it "exposes the way reality conflicts not with some 'transcendent' concept of rationality but with its own avowed norms" (ibid. 42). An immanent critique of a system of thought is "a critique which derives the standards it employs from the object criticized . . . rather than approaching that [system of thought] with independently justified standards" (Stahl 2013, 2). With immanent critique, a theory (or a research program) "is challenged not with arbitrary constructions but with norms whose acknowledged validity is part and parcel" of that theory (Buchwalter 2012, 42). In other words, "the emphasis on the contradiction [or, internal tensions], rather than correspondence", between the concrete empirical content of analysis and its theoretical starting points, "is the basis of Marx's immanent critique" (Antonio 1981, 334).

Immanent critique allows an objective reappraisal for what the theory under scrutiny claims to offer and what it actually does. The method "simply implies showing the limitation of a system of thought based on its own internal assumptions" (Boda and Faran 2018, 9). The process starts with "accepting the

premises of a system of thought, then spotting the gaps, silences and contradictions in it, and finally showing the necessity of introducing new concepts in order to resolve such tensions . . . Once tensions or gaps in a particular way of thinking or acting are uncovered, more adequate ways of thinking and acting become necessary to overcome these inadequacies" (ibid. 10). This procedure will be followed by theoretical and empirical development. Throughout the process, one identifies internal contradictions/inconsistencies in terms of theoretical tensions, and theory-data (or empirical inconsistencies and tensions), and data-data "where the data used to propose some conclusion in fact better supports another conclusion" (Antonio 1981, 334; Isaksen 2018, 98; 106).

Immanent critique is utilized in this monograph to dissect theoretical tensions and theory-data, data-data inconsistencies, i.e., anomalies, in the SMLR and the subsequent development of the competing model, the TILR. However, the theoretical and empirical comparison and the final judgment between the two models are left for Lakatos's methodology of scientific research programs. In other words, Lakatosian methodology is utilized as a metric for immanent critique.

2.2. Lakatos and the Methodology of Scientific Research Programs

One crucial component of the Lakatosian methodology that Lakatos himself is coy about when presenting his framework is its Hegelian immanent critique[4]. Immanent critique plays a decisive role in Lakatos's explanation of how research programs question their established auxiliary hypotheses when confronting objective anomalies and how they develop alternative hypotheses to protect their core assumptions against anomalies. Anomalies expose internally inconsistent hypotheses, and immanent critique helps researchers address those inconsistencies in the face of objective reality.

Lakatos develops his methodology using an immanent critique of Popper's positivism and Kuhn's constructivism. The constructivist critique of "normal science" was a response to Popper and the revival of positivism. Lakatos and Kuhn "directed attention to the historical dimension of science" (Losee 2001 [1972], 206). What distinguishes Lakatos from Kuhn is that he synthesizes Kuhn's account of the development of scientific theories with Popper's account of the development of scientific methods. Lakatos rejects the Kuhnian argument that successful paradigms are the ones that could create a consensus (or monopoly) among scientists but acknowledges Kuhn's point on the subjective (theoretical) character of research programs highlighting the tenacity of scientists in protecting their programs.

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[4] The influence of Lukács and Hegelian Marxism on Lakatos and his theory of science is well documented (see e.g., Ropolyi 2002).

Lakatos also rejects what he calls naïve falsification, which claims that empirical facts can easily falsify and dismiss a paradigm.

In other words, his approach is different from both positivism and constructivism in that he incorporates the valid points of both methodological (or as Lakatos calls it sophisticated) falsificationism and constructivism (or fallibilism). The choice of research programs is not arbitrary. Nor is it a result of some intellectual consensus among scientists. Instead, it is an outcome of competitive interaction between research programs to explain empirical facts, anticipate future counter-examples, and turn them into corroborative reasoning.

For Lakatos, the unit of a historical analysis of science is a research program. It is, in many ways, similar to the constructivist notion of paradigm. The emphasis, however, is on its objective character. Research programs comprise "a characteristic hard core stubbornly defended" . . . a "more flexible protective belt" . . . and an "elaborate problem-solving machinery" or heuristics (Lakatos 1978, 5). The core assumptions, briefly, are assumptions that, if compromised, the entire program ceases to exist. For instance, if somehow it is proven that the law of natural selection played no role in the evolution of species, Darwinian evolutionary biology would begin to tremble. The same argument could be made for gravity and Newtonian physics. Therefore, the most successful research programs are those that could anticipate potential anomalies and develop sufficient hypotheses to protect their core (ibid. 39). Quintessential examples include Newtonian mechanics and Darwinian evolutionary biology that, over centuries, managed to survive "an ocean of anomalies" (ibid. 48).

Lakatos maintains that research programs form around these core assumptions or hard cores. Core assumptions must be kept intact, or the research program will degenerate (ibid. 47). They are there to explain the known facts. But science grows in a competitive environment, and scientists face empirical evidence against their core assumptions every day. To protect the core when exposed by counter-examples, scientists generate auxiliary hypotheses as a protective belt and redirect the *modus tollens* to these hypotheses instead of the hard core (ibid. 48). This strategy is called negative heuristics. There is a set of positive heuristics too. That is when scientists generate hypotheses to anticipate future anomalies (ibid. 49). "The negative heuristic specifies the 'hard core' of the programme which is 'irrefutable' by the methodological decision of its protagonists; the positive heuristic consists of a partially articulated set of suggestions or hints on how to change, develop the 'refutable variants' of the research-programme, how to modify, sophisticate, the 'refutable' protective belt" (ibid. 50). Negative heuristics "tell us what paths of research to avoid" and positive heuristics tell us "what paths to pursue" (Losee 2001 [1972], 203).

A research program progresses as long as it can anticipate more anomalies, and it degenerates when it fails to do so. The 'hard core' may crush under too many protective belts against coming *modus tollens* instead of progressing toward new assumptions. "In a progressive research programme, theory leads to the discovery

of hitherto unknown novel facts" (Lakatos 1978, 5). On the other hand, a research program degenerates if "theories are fabricated only in order to accommodate known facts" using only *ad hoc* explanations (ibid. 5; 39).

"A sequence of theories –T_1, T_2, . . . T_n—is progressive if the following conditions are fulfilled:

(1) T_n accounts for the previous successes of T_{n-1};
(2) T_n has greater empirical content than T_{n-1}; and
(3) Some of the excess content of T_n has been corroborated" (Losee 2001 [1972], 204-205).

Lakatos presents a set of standards for comparing two rival scientific research programs by which one research program supersedes another. A program is successful if it "explained everything" that the other "had successfully explained"; if "it explained also to some extent some known anomalies and, in addition, forbade events . . . which had been permitted by other well-corroborated scientific theories of the day"; and if it corroborated at least some "unexpected excess content" (Lakatos 1978, 39). Only then can an alternative research program surpass its rival. These criteria are used to judge between the SMLR and the TILR.

2.3. The Methodological Strategy for Comparing the SMLR and the TILR

I follow immanent critique of the SMLR, accordingly, to examine the explanatory power of Harvey's model of urban land rent as well as its theoretical tensions, theory-data, and even data-data inconsistencies using a literature survey (presented in Chapter 3). Harvey's analysis of economic urbanization processes in which land rent is central is methodologically superior to pre-Harveyan, i.e., neoclassical, approaches as it draws attention to structural forces (i.e., capital forces) stimulating or limiting urbanization processes. Harvey's model of urban land rent, the SMLR, however, breaks with its structural aspirations and, in the final analysis, explains structural mechanisms with agential relations by incorporating monopoly and power relations as the driving force of rent creation and appropriation and explaining the level of rent with the power of the landowner class.

Further analysis of the literature operationalizing the SMLR for geographic research (presented in Chapter 4 and accompanied by a bibliometric study presented in Chapter 5) reveals further theory-data inconsistencies. The SMLR conveys no analytical tools, beyond innovative conceptualizations, for empirical analyses of rent rates, ceilings, and magnitudes. Its primary analytical tool, the monopoly pricing mechanism, only explains the rise of rent. That leaves the task of problem-solving within the research program to the next generations of heterodox urban economic geographers. A lack of a conceptual apparatus to explain macro-level rent relations, rates, magnitudes, and ceilings led the next generations to incorporate and

innovate alternative conceptual frameworks such as capital switching and rent gap to complement the SMLR. Nevertheless, the anomalies mentioned above remain unresolved.

To address and resolve the anomalies, I developed a competing model of urban land rent to the SMLR, called the TILR. By incorporating the long-dismissed concept of absolute rent in the Harvey-inspired urban economic geography and an inter-sectoral and multi-scalar framework, the TILR offers an alternative model that explains everything the SMLR explains but without these anomalies. In other words, the TILR aims to offer "greater empirical content" as it also explains the gaps and tensions in the SMLR (Losee 2001 [1972], 204-205). And in this process, the concept of absolute rent is aspired to be a crucial experiment (ibid.). The source of rent is measured by the differential inter-sectoral rates of return, and the inter-sectoral incremental rates of return measure the movement of capital.

And following Lakatos's criteria for comparing (and judging between) research programs, I conducted a series of empirical studies. The empirical studies aim to examine the empirical strength of the SMLR in explaining the source of rent (or rent creation) and the movement of capital (or rent appropriation) structurally and in terms of the dynamics of capital. The first study is on Baltimore, the United States, to reappraise Harvey's main empirical study on urban land rent. The study is conceptual and aims to compare analytical tools each model offers to measure and contextualize rent creation and appropriation processes. The second study is on Stockholm, Sweden, as a well-researched case using the SMLR that, at the same time, illuminates two crucial issues with the SMLR concerning anticipated analytical tools in the model and the capacity to explain rent creation and appropriation structurally as the existing studies on Sweden using the SMLR tend to explain structural transformations with the actions of agents. Finally, the third study summarizes my operationalization of the TILR in the case of Iran based on three earlier published studies on gentrification, spatial inequality, and public housing (Farahani 2013; Farahani and Yousefi 2021; Yousefi and Farahani 2019). Here, the TILR provides a structural, scalar, and historicized explanation of rent creation and appropriation in Iran by relating such processes to the dynamics of productive capital. The empirical comparison of the two models is presented in Part II.

One crucial question, however, remains. If incorporating the concept of absolute rent could resolve all anomalies discussed in the SMLR, why have Harvey and Harvey-inspired geographers remained reluctant to operationalize it for five decades? Answering this question requires a theoretical comparison of the underlying economic theories in each of the two models. And the aim is to explain why and how the underlying economic theory of the SMLR, rooted in Harvey's interpretation of Marx's economic theory, deems the concept of absolute rent inconsistent and, therefore, "irrelevant" (Harvey 2013 interview in Barnes and Sheppard 2019, 207). Conversely, it aims to explain how the underlying economic theory in the TILR, rooted in another and equally sophisticated interpretation of

Marx's economic theory, enables the model to consistently incorporate the concept of absolute rent and rival the SMLR for a consistently structural and endogenous explanation of economic urbanization processes. The discussion on the theoretical tensions within the SMLR and the theoretical comparison between the two models is presented in Part III.

Chapter 3. Harvey and the Structural Analysis of Capitalist Urbanization

3.1. Pre-Harveyan Urban Analysis and Harvey's Critique

The pre-Harveyan urban economic geography is heavily inspired by neoclassical economics and its marginal utility model. It analyzes market structures shaping investment choices in urban land markets, in which the crucial indicator is the cost of land. In the case of residential location, "the general hypothesis is that households trade-off travel costs (which increase away from the city centre), against housing costs (which are shown to decrease from the city centre) in an attempt to maximize utility subject to an overall budget constraint" (Bassett and Short 1980, 27; McDonald 2007, 67). In this trade-off model, budget and time constraints are independent, and travel and housing costs are dependent variables (Bassett and Short 1980, 27-28). Housing production is structured by the household's demand (preference) and the producer's behavior (Muth 1969; 1971). In other words, the elasticity of supply depends on the elasticity of housing demand (Muth 1971, 244).

Rent, in this model, is "a rational allocative device which allocates land to the highest bidder" (Bassett and Short 1980, 28). Like von Thünen, Alonso develops his monocentric land rent model as an interpretation of Ricardo's differential rent (Alonso 1964; McDonald 2007, 68). In this model, rent is "a function of accessibility" (Bassett and Short 1980, 29). It is analyzed in terms of differential locational accessibility, shaping an individual household's willingness to pay away from a commercial city center (i.e., central business district). It is measured in terms of market values of the area and the property under study.

Harvey goes beyond neoclassical analyses by drawing attention to processes and structures that shape and maintain residential development patterns, which neoclassical models meticulously simulate and describe. He problematizes neoclassical models by accentuating the limits of their explanatory power, thereby developing a rival structural explanation that goes beyond market structures and relates economic urbanization processes to the dynamics of capital. He views neoclassical models as "special cases, which describe conditions when absolute and monopoly rents are insignificant, when absolute and relational concepts of time and

space are irrelevant, and when the institution of private property is notably quiescent in the land and property markets" (Harvey 1973, 188).

Land rent in Harvey's model is levied due to (class) monopoly relations over land and functions as a barrier to the free movement of capital onto land. The free movement of capital is capitalism's primary strategy to produce spaces of accumulation to compensate for its recurrent overaccumulation crises—itself an inevitable outcome of uneven geographies of capitalist development.

The appeal of Marx and his economic theory to Harvey and other political-economic geographers in the 1970s comes from the need to a) legitimately establish geography as a scientific discipline; b) move beyond empiricist explanations and identify the (economic, historical, and sociological) structures; c) provide a better and more rigorous understanding of the drivers of spatial change; and d) formulate a dialectical understanding of the relation between micro-foundations and aggregate patterns (Castree et al. 2013, 409; Gregory et al. 2009, 619; Massey 1985; Olsson 1974; Smith 1971, 153-154; Swyngedouw 2000, 42). This last point is crucial as geographers aimed to find "a way of preserving the truth of premises derived from large scale data in conclusions about small scale behavior", most commonly found in neoclassical explanations (Olsson 1974, 52).

The departure from location and landing on space then seems inevitable as location is fixed—a spot on the map. But inserting space into the geographic analysis enabled heterodox urban economic geographers to incorporate social relations and political-economic analyses to understand structural drivers of geographical differentiation and move beyond empiricist descriptions common in neoclassical models (Harvey 2006, also see Bandyopadhyay 1982a, 170). And the resulting spatiotemporal framework was operationalized to delineate the (historical and geographical) dimensions of capitalist urbanization processes.

Harvey's intervention in establishing heterodox urban economic geography has been formative. His immense theoretical and analytical contributions showed that the structural (political-economic) analysis of the capitalist city is relevant and proved that the focus on the material conflicts in urbanization processes is significant. Advancing models for spatialities of capital accumulation, he pushed radical geography beyond a framework with 'radical values'. He helped establish it as a scientific tradition in urban economic geography capable of (at least to some extent) rivaling non-structural, neoclassical, and institutionalist approaches. He points to political-economic forces behind both spatial change and urban land strategies and singles out the role of material struggle over the appropriation of urban resources in a framework specifically designed to stand against urban inequalities and advocate for the urban poor. None of his contemporary heterodox urban geographers and economists came close to developing such a systematic analytical model for geographic research and urban political economy to rival neoclassical explanations. Most critiques remain at theoretical and conceptual levels, highlighting theoretical differences between political economy and

neoclassical urban analyses (Walker 1974; Ive 1974; Clarke and Ginsburg 1975; Bruegel 1975; Edel 1976; 1992)[5].

3.2.   Harvey and Urbanization as Capitalist Accumulation and Development

Harvey is one of the first (and arguably the most influential) urban economic geographers to conceptualize a scientific model to analyze urbanization processes and spatial change. Inspired by Marx's structural analysis of the capitalist economy, Harvey relates economic urbanization processes to structural processes of capitalist accumulation and development. By relating spatial differentiation patterns to general patterns of capitalist development (best analyzed in *The Limits to Capital* (2006 [1982])), he contends that spatial differentiations are outcomes of inherently uneven geographies of capitalist development. Harvey articulates the process's causal mechanisms in uneven geographical development theory, which holds a crucial position in Harvey's operationalization of Marxian economics into geographic research.

In contrast to the monocentric neoclassical models alluded to above, Harvey stresses that capitalism develops geographically due to capital's movement from space to space and its production of more spaces. "Capitalism does not develop upon a flat plain surface endowed with ubiquitous raw materials and homogenous labour supply with equal transport facility in all directions" (Harvey 2006 [1982], 415). "[A]ctively produced . . . territorial and regional coherence . . . arises out of the conversion of temporal into spatial restraints to accumulation" (ibid. 416). A region-specific explanation of capitalist development entails "surplus value has to be produced and realized within a 'closed' region, then the technology of production, structures of distribution, modes and forms of consumption, the value, quantities and qualities of labour power, as well as all necessary physical and social infrastructures must all be consistent with each other within that region" (ibid. 416-417). It follows that, in such a model, each region would function according to its specific law of value, "associated with particular material livings standards, forms of the labour process, institutional and infrastructural structures" (ibid.).

However, these spatiotemporal constraints, Harvey maintains, appear as contradictory to capital accumulation given that "regional economies are never

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[5] "Geography is an eclectic and fashion-prone discipline", Swyngedouw (2000, 41) observed, with a "short-lived" attention span "for major theoretical and methodological perspectives". Radical geography has complied with this rule throughout its history. And even though Marxian political economy functioned as a prominent approach in the early stages of the establishment of radical geography as a coherent intellectual tradition in geography (thanks to Harvey's efforts), it soon lost the ground to first post-structuralist (in social analyses) and then post-Keynesian (in economic analyses) perspectives since the mid-1980s.

closed", and both capital and labor tend to move to regions with higher relative profits or higher relative living standards (ibid.). That is because, capital tends to accumulate in a contradictory and overall uneven fashion as "an opposition between countervailing forces, making for geographical concentration or dispersal in the circulation of capital" (ibid. 417). In this process, Harvey writes, "[t]he circulation of capital is increasingly imprisoned within immobile physical and social infrastructures which are crafted to support certain kinds of production, certain kinds of labour processes, distributional arrangements, consumption patterns, and so on" (ibid. 428).

Harvey draws on Marx to explain the tendency to agglomerate (or concentrate) "productive forces in urban centres [as well as] correlated changes in social relations of production and living. . . [and] how the forces making for agglomeration can build cumulatively upon each other, drawing new transport investments and consumer goods industries to already established locations" (ibid.). Capital (as-such) tends to concentrate because concentration reduces communication time and transport and transaction costs (Harvey 2006, 96). However, "[t]he spatial range [between the work and residential places] depends upon transportation capacities and the means, cost, and time taken" (ibid.).

Harvey criticizes the neoclassical equilibrium trade-off model that "presumes an equilibrium arising out of rational trade-offs between rising transport costs over distance and corresponding diminution of demand" (ibid.). Distance, itself, is a function of "time and cost of movement", which put "intense pressure to reduce frictions of distance by innovations in transportations and communications" (ibid, 100). Harvey clarifies, "[t]his process is complicated because the drive to accelerate turnover time through improvements in transport and communications alters relative spaces and so transforms superior into inferior locations and vice versa" (Harvey 2006 [1982], 426).

As the region develops, the local costs, including land values and potential political tensions, increase (ibid.). That is in part because concentration escalates organization opportunities for the workers (ibid.). Harvey also names "[c]ongestion costs, increasing rigidity in the use of physical infrastructures, rising rents and sheer lack of space" (Harvey 2006 [1982], 418). These costs put pressure on agglomeration economies and, as capital begins to move to previously underdeveloped areas, the spatial dispersal becomes increasingly inevitable. Capital mobility is in part facilitated, for example, by the development of communication technologies (Harvey 2006, 100). Harvey names barriers to dispersal and drivers of capital's inertia to stay put as "[t]he large quantities of capital embedded in the land itself, the social infrastructures that play such an important role in the reproduction of both capital and labour power, restrictions on the mobility of capital tied down in concrete labour processes" (Harvey 2006 [1982], 418). The process becomes even more complicated as "physical and social infrastructures" depend on economies of scale central to the concentration process, making "a stable equilibrium between them" ever more unattainable (ibid.). All of this leads capital "towards successive

phases of deepening and widening in the spatial configurations of productive forces and social relations" (ibid. 419).

Location plays a crucial role in this process as "[c]apitalists occupying superior locations . . . gain excess profits" (Harvey 2006, 97). These excess profits could prove problematic given that "if the excess profits turn out to be relatively permanent, then they may be 'taxed away' by high land rents/prices: the excess profits will be siphoned off by a landlord class" (ibid.). The existence of excess profits in superior locations rivals other sources of excess profits for capitalists in terms of technological or organizational advantage (ibid.). Therefore, "[t]rade-offs exist between these two ways of gaining competitive advantage" as capitals with a higher technological advantage might opt to remain in inferior locations (ibid.). Thus, Harvey improves on Alonso's explanation of rent by relating rent creation and appropriation processes to the spatial dynamics of capitalist development.

Processes of uneven geographical development have another driver too. What drives the process is capital's tendency to undermine demand and its systematic failure in circulation, which increases the aggregate tendency to overaccumulation and shrinking investment opportunities for individual capitals, conceptualized as the devaluation of capital (Harvey 2006 [1982], 424). Hence, periodic crises of overaccumulation. The tendency to overaccumulation leads to "the devaluation of individual capitals and labour power through crises" (ibid.). "This happens, however, within a framework of uneven geographical development produced by differential mobilities of various kinds of capital and labour power, all linked together within temporal constraints imposed by the circulation process of capital itself" (ibid.). He calls this a third-cut theory of economic crisis that incorporates "the material qualities of social space as defined under capitalist relations of production and exchange" to explain, primarily, crisis formation processes (ibid. 425).

Harvey refers to Marx's original theory of crisis that explained capitalist crises via internal contradictions of capitalist production as the first-cut crisis theory. The second cut crisis theory or overaccumulation theory of crisis, to put it simply, "strives to integrate an understanding of the contradictions inherent in finance capital as a process with the understanding of the problems of disequilibrium in production" (ibid. 284). Here Harvey aims to understand and explain "the manner in which the credit system brings capital together as the common capital of the class, with the potentiality to counteract those errant behaviours of individual capitalists that are a primary source of disequilibrium in production" (ibid. 325). That means, "the inner contradictions within production are manifest in exchange as an opposition between money and commodity forms of value which then becomes, via the agency of the credit system, an outright antagonism between the financial system and its monetary base" (ibid. 326). The third-cut theory of crisis is "to integrate the geography of uneven development into" the second-cut theory (ibid. 425). The theory explains the trade-off between locational and technological advantage and the subsequent impact on the "place-specific devaluation" of individual capitals on

the one hand and a fall in effective demand, on the other (ibid. 425-426). And "since capitalists will be capitalists", they will ignore the social impact of devaluation and continue to accumulate (ibid. 426). The civil society, therefore, is "destined to experience the social distress, disruption and unrest that accompany the forcible restoration of conditions favourable to accumulation" (ibid. 427).

3.3. Harvey and Urbanization as the Production of Space (Spatial Fix)

The theory of uneven geographical development portrays an uneven geographical landscape of capitalism in which "some regions boom while others decline" (Harvey 2006 [1982], 428). The unevenness at the aggregate level tends to increase the risk of overaccumulation. And in response, geographical re-structuring provides "temporary resolutions to problems of overaccumulation" (ibid.). In this context, the capitalist crisis is "reduced to minor switching crises as flows and capital and labour switch from one region to another, or even reverse themselves, and spark regional devaluations (which can sometimes be intense) as well as major adjustments in the spatial structures (such as the transport system) designed to facilitate spatial flows" (ibid. 428).

Harvey argues that the devaluation of capital—a crucial variable in the process of overaccumulation—is "avoided by successive and ever grander 'outer transformations'", and through the production of new spaces of accumulation (Harvey 2006 [1982], 427). Harvey conceptualizes this process as spatial fix. It is defined as "dispersing or exporting capital and labor surpluses into new and more profitable spaces" (Harvey 2006, 96). Capitalist crises have been best fixed by capital's spatial mobility, as a process of producing new (fixed) spaces for investment with longer turnover, such as built environments (housing and other sectors of social reproduction, office and commercial spaces, as well as infrastructure) that absorb the surplus capital slowly (Harvey 2006, 101-102). The regional competition to absorb surplus capital is geographically uneven given that "[w]hen a particular civil society creates fresh productive powers elsewhere to absorb its overaccumulated capital, it thereby establishes a rival center of accumulation which, at some point in the future, must also look to its own spatial fix to resolve its problems" (Harvey 1981, 8).

To explain the process of geographical re-structuring and the spatial fix, Harvey starts with a deliberately simplified presumption: that "all production and realization of interdependent capitals occurs within a closed region" (Harvey 2006 [1982], 426). Then, he goes on to explain the process and mechanism of the fix through regional competition as capital tends to explore external spatial investment opportunities "until all external possibilities are exhausted or because other regions resist being treated as mere convenient appendages" (ibid. 427).

But this process is not straightforward, as 'the other' regions strike back: "[t]he competitive position of the region as a whole can be eroded because other regions have gone through the discomfort and tragedy of internal re-structuring of their productive apparatus, social relations, distributive arrangements, and so on" (ibid.). The external regional competition could potentially force the regions "into even more savage devaluation through outside pressure" (ibid.). On the economic-geographic level, "interregional competition" is the driver behind processes of the spatial fix. On the political level, territorial alliance plays a crucial role in regulating the process. Therefore, economic and political forces and reorganization over space/region function as regulatory mechanisms for 'fixing' overaccumulation crises: "[t]he degree to which overaccumulation problems arising in one place can be relieved by further development or devaluation in another place depends upon the intersection of all manner of diverse and conflicting forces" (ibid.). In that sense, spatial fix (as switching crises), and the subsequent spatial reorganization, are mechanisms "to restore the disturbed equilibrium" (ibid. 429). In the end, the persistent regional "geographical inertia" leaves capital with no other options than moving toward "the total re-structuring of the space economy of capitalism on a global scale" (ibid.).

To conceptualize the role of space in production and circulation processes, Harvey (1974a, 239-240) identifies three variables required for both processes. He writes, "production and distribution cannot take place without (1) an elaborate social structure (encompassing the division of labour, the provision of socially necessary services, and so on), (2) a structure of social institutions through which individual and group activities can be coordinated, and (3) a certain minimum of physical infrastructure (communication links, utilities and the like)".

Therefore, the geographical re-structuring and the production of space, according to Harvey, are macro-level economic-geographical strategies to resolve capitalist overaccumulation crises. Capitalist crises are rooted in dual, contradictory strategies of capital accumulation across space (that is, processes of concentration and dispersal). Economic urbanization processes are materialized as outcomes of the production of space and the space economy of capitalism. Unlike what neoclassical models suggest, urbanization processes are not outcomes of a trade-off between investors and consumers' marginal utility at the micro-level. They are deeply rooted in structural patterns and (contradictory) tendencies of capitalist development across space.

Harvey (1985, xi) calls for "the integration of the production of space and spatial configurations as an active element within the core of Marxian theorizing". That is an intellectual mission that at the same time seeks to reverse "the predisposition to give time and history priority over space and geography" common in "Marx, Weber, Durkheim, and Marshal", symptomized by a lack of "the conceptual apparatus" required to insert "space and space relations" into social inquiry (ibid.). And especially with Marx, "historical materialism appeared to license the study of historical transformation while ignoring how capitalism produces its own

geography" (ibid. xii). "Historical materialism", he goes on, "has to be upgraded . . . to historical-geographical materialism. The historical geography of capitalism has to be the object of our theorizing" (ibid.).

He argues (ibid. xiii), "capitalism, as viewed from the standpoint of production in the first volume of Marx's Capital, looks very different from capitalism studied from the viewpoint of circulation in volume two". This observation forms the starting point of his development of Marx's theory to accommodate the above-mentioned anomaly, i.e., a lack of a conceptual apparatus to integrate space in the framework. Harvey proposes a synthesis the two viewpoints, in volume one and two, as "an understanding of those contradictions and reach out to grasp successive resolutions and internalizations of those tensions within the realms of finance capital, the state apparatus, and the geography of uneven development" (ibid. xiii-xiv). The contradictory process of "creating landscapes" by capitalism is then explained through "studies of the circulation of capital in general" that can be "broadened and disaggregated to encompass problems of fixed capital formation and circulation and the interventions of finance capitals and appropriators of rent" (ibid. xv-xvi).

3.4. Marxist Critiques of Harvey's Theory of Capitalist Development

Ever since his famous and well-documented Marxist turn in the early 1970s (Harvey 2000), Harvey has faced challenges from other Marxists, inspired by various interpretations of Marx's economic theory. However, except for a handful of instances, these Marxist critics have seldom advanced a coherent and exhaustive alternative explanation to rival Harvey's analytical model for 'another' Marxist geography. Instead, the focus has been on pinpointing the difference between Harvey's interpretation of Marx and other interpretations.

The most influential critiques of Harvey can be usefully categorized into two fronts with different levels of abstractions.

On an economic theory level, stand critiques of Harvey's competition theory and his theory of economic crisis. More elaborated critiques by 'Marxist' economists challenge Harvey's rejection of the law of the tendency of the profit rates to fall and his proposed (equilibrium) spatial fix (Kliman 2015; Lebowitz 1986; Mattick Jr. 2008; Roberts 2014; 2016b; 2020a). On a geographic theory level, stand critiques of his theory of capitalist development (i.e., theory of uneven geographical development) and accumulation by dispossession (Das 2017a; 2017b).

I could add a third front that attempts to operationalize the economic theory into geographic research, specifically in urban economic geography. That is the realm of rent theory, where fluctuations in other aspects of the economy (e.g., sectoral differential profitability) drive (dis)investment onto land at the macro-level and

govern investments at the micro-level. This front requires elaboration as although Harvey's rent theory has been subject to criticism by various Marxist economists since the late 1970s, a coherent alternative to Harvey's rent theory for geographic research has never been presented.

This section reviews one of the most systematic and unequivocally Marxist critical re-examinations of Harvey's theory of uneven geographical development presented by a geographer (Das 2017b).

Raju Das (2017b, 517) begins his critique of Harvey's theory of uneven geographical development by criticizing a presumed ideal image of capitalist development in Harvey's theory. Das writes, Harvey "generally equates capitalism to the capitalism where productive forces are advanced and technological change is constantly happening" (ibid.). According to him, Harvey "conflates capitalism-in-general with capitalism at a specific stage of development (advanced capitalism)" (ibid. 518). Das questions Harvey's epistemological choice that takes an ideal (i.e., a most perfect) case for capitalist development in which investment of fixed capital is evenly distributed across space, and economic and technological developments are also at a high level. For Harvey, Das argues, unevenness is an outcome of the absence of such an ideal case. Das (ibid.) questions "this implied underlying linearity and the associated tendency to generalize on the basis of the experience of a few capitalist countries which currently have an advanced level of productive forces, rather than thinking about capitalism-in-general and thinking about capitalism internationally". "What is uneven", Das (ibid. 519) continues, "is not just the development of the physical properties of capital (e.g., built environments, etc.) but also the non-linear transition from one stage to another".

Das draws on Marx's mechanisms of exploitation in terms of formal subsumption of labor (i.e., extracting absolute surplus-value through prolonging the working day) and real subsumption of labor (i.e., extracting relative surplus through intensifying the working day by incorporating labor-efficient technologies). He contends that the shift from formal to real subsumption of labor (as an investment strategy) "varies in space, producing spatial unevenness in whether and how the transition to real subsumption of labour associated with a developed capitalism based on systematic technological change happens" (ibid. 519). In other words, uneven geographical development "cannot be seen merely in terms of *where* capital investment is/occurs/moves to. What capital accumulation/investment *does* to labour must be taken into account in a much more rigorous way than Harvey's approach allows" (ibid. emphasis in original).

Therefore, Harvey's theory is deemed inadequate because a) the role of technological development and real subsumption processes in capital accumulation, which historically varies over space, is not central to it. Harvey discusses some technological relations. But he (2006 [1982], 134-135) finds Marx's explanation of the organic composition of capital, to which production-related technological development is central, "mathematical" and, therefore, inadequate, as he believes "the necessary limits here are social", i.e., in terms of "the need to maintain the

consuming power of the workers as a necessary source of effective demand for the realization of capital through exchange". Harvey also questions the lack of substantial argument in Marx's works "about technologies of realization and circulation" (Harvey 2017, 107). And b) Harvey's theory does not adequately distinguish formal and real subsumption processes. Das (2017b, 523) maintains that Harvey's "distinction between areas where there is an over-accumulation of capital and areas which receive over-accumulated capital, and between capital that is fixed/immobile and capital that is not" are important but inadequate. So he complements Harvey by suggesting "to think about geographical areas in terms of the organic composition of capital: areas where there is a higher than average ratio of organic composition capital (c/v) and areas where the ratio is lower" (ibid.). That is, areas in which sectors with a higher or lower organic composition of capital are dominant.

Das says, "for Harvey, [uneven geographical development] is about cutting costs (including especially costs of geographical movement), which is associated with an increase in the ratio of immobile to mobile capital" (ibid.). Das criticizes Harvey for explaining "contradictions of capitalism using an approach that applies to *all* class societies rather than deploying a broader, a more totalizing, approach which combines mechanisms that apply to all class societies with those that are associated with capitalism as such, and with advanced capitalism" (ibid. 520, emphasis in original). He also criticizes Harvey for identifying "competitive relations in an anarchic market", and not class relations, as the most significant set of relations shaping and forming capitalist development and crises (ibid. 519). Das goes on, "[t]he disequilibrium happens unevenly; the over-accumulation crisis is localized. That is in part because of the geography of fixed capital. If for neo-classicals, market is the solution to ills, for Harvey market causes problems" (ibid. 521)[6]. Das (ibid. 523) provides a counterexample to cost-cutting processes that Harvey explained in cases where cutting wages led many capitals to stay put (most typically in the Third World and other underdeveloped regions in the global capitalism). Das (ibid.) clarifies,

> Capital's more general tendencies/mechanisms operating at the level of capitalism-in-general and at the level of capitalism at a higher stage of development—these include competition, including in geographical space, exploitation of labour, tendency towards crisis via technological changes, imperialism, etc. which are, more or less, independent of time and place within the history of capitalism—interact with the time-and-place-specific features of capitalism.

And uneven geographical development is the consequence of such interaction.

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[6] Elsewhere, Edel (1992, 6) notes, "Harvey's notion of analyzing disequilibrium to devise policies for equilibrium also failed to distinguish between unresolvable conflict and conflict leading to reform solutions within capitalism".

3.5. Harvey and Land Rent as a Linchpin in the Analysis of Urbanization

Land rent plays a central role in Harvey's explanation of capitalist urbanization processes as a barrier to a free movement of capital onto land, and in that sense, it is a barrier to a free flow of (mass of) investments onto land and the driver of the social conflict over landed property. Harvey is distinguished as the first geographer to bring land rent to the center stage of urban and spatial analysis. His 1973 classic book (followed by two seminal articles in 1974) includes an entire section on rent and the ways in which it could help articulate political-economic drivers and mechanisms of investments in urban land. It also appears as the first attempt to update Marx's and Ricardo's rent categories and operationalize them for urban contexts (reviewed in Appendix 1). Harvey (2010, 183) writes,

> Rent has to be brought forward into the forefront of analysis, rather than being treated as a derivative category of distribution as happens in Marxist as well as conventional economic theory. Only in this way can we bring together an understanding of the ongoing production of space and geography and the circulation and accumulation of capital and put them in relation to processes of crisis formation where they so clearly belong.

To explain the impact of rent relations on the switching crises mechanism, he articulated in the spatial fix thesis, Harvey turns to Lefebvre. Harvey (1974a, 239) develops a conceptual apparatus to explain processes and (particularly socio-spatial) implications of Lefebvre's thesis that the "'secondary circuit of capital' is supplanting 'the primary circuit of capital in production'". This transformation, which Harvey conceptualizes as the capital switching thesis, was made possible, primarily because "'the proportion of global surplus value formed and realized in industry declines' while the proportion realized 'in speculation, construction and real estate development grows'" (ibid.). And he argues that land rent is at the core of this process as a barrier and thus as the primary driver of investment that arises due to exogenous barriers to circulation processes, i.e., monopoly relations over land ownership. Harvey complements Lefebvre's thesis by incorporating an economic explanation for capital switching in terms of rates of return. "If rates [of] return are high in the real estate and property markets, then investment will shift from the primary productive circuit of capital to this secondary circuit" (ibid. 241). To illustrate this argument, he (1978, 106-111) reviews a series of historical examples in the 19th and 20th centuries using a series of variables, including time series for investment in construction (total and percentage of GDP, GNP), building activity, sale prices, and so on. Since the rate of return on investments in space includes land rents, rent is to be at the core of the analysis of urbanization processes in terms of switching to the secondary circuit of capital.

He (1974a, 240) criticizes the neoclassical solution to the rent question in which "rent is a kind of rationing device through which a scarce factor of production—land and its associated resources—is rationally and efficiently allocated to meet the productive needs of society". He stresses that the neoclassical model fails to understand rent payment as payment to people and not to land, resulting in the reification of rent extraction processes (ibid.). It similarly fails to understand that rent is a payment to an exclusively owned 'scarce' resource, resulted from "monopoly power over land" established institutionally as landed property (ibid.). In that sense, he also explains scarcity in terms of monopolistic social relations, a concept absent in the neoclassical framework as they presume it 'natural'.

Therefore, land rent represents a factor in the realization of surplus value as a transfer payment for land as a scarce and "fixed and immobile capital asset" (ibid.). The two characteristics of land are related "[b]ecause these relatively permanent fixed capital assets are highly localized in their distribution, the urbanization process has created scarcity where there was none before" (ibid. 240). Land rent represents the price of land and is realized as "a transfer payment to a scarce factor of production" (ibid.). In this context, economic urbanization processes have "multiplied the opportunity for realizing rent" (ibid.). Harvey (2006 [1982], 330) stresses, "[r]ent, in the final analysis, is simply a payment made to landlords for the right to use land and its appurtenances (the resources embedded within it, the buildings placed upon it and so on)". And rent more specifically refers to "the pure payment to raw land, independent of the improvements thereon" (ibid. 331).

Following both Ricardo and Marx, Harvey understands and measures rent in terms of excess profit. He explains that manufacturers operating with scarce resources "stand to receive excess profits in perpetuity by virtue of the natural advantages they enjoy. . . The level of excess profit (and, by implication, the rent) is fixed by the difference between the individual productivity and the average productivity and price of production prevailing within the industry" (ibid. 336).

That gives a significant and unique position to landed property in capitalism: "[t]he ownership of private property in land confers exclusive power on private persons over certain portions of the globe" (ibid. 338). An absolute conception of space implied in capitalist land relations entails "a principle of individuation established through exclusivity of occupation of a certain portion of space—no two people can occupy exactly the same location in this space and be considered two separate people" (ibid. 339). But this "exclusivity of control over absolute space is not confined to private persons but extends to states, administrative divisions and any other kind of juridical individual" (ibid.). Private landed property "clearly establishes the portion of the earth's surface over which private individuals have exclusive monopoly powers" (ibid.).

Harvey reformulates Ricardo's model, which explains rent in terms of soil fertility in agriculture, for urban contexts where the excess profit, constituting land rent, is generated in terms of relative locational advantage or favored location: "[p]roducers in more favoured locations ('more favoured' in this case is measured

in terms of lower transport costs) can gain excess profits" (ibid.). In other words, excess profits exist for such producers, given that "their production and accessibility costs are lower and their yield higher than on the most marginal field" (Harvey 2010, 81). The excess profits or superprofits, "like differences in natural fertility, are to be regarded in the first instance as permanently fixed as compared with the usual transitory form of relative surplus value associated with ephemeral technological advantage" (Harvey 2006 [1982], 338-339).

Harvey contrasts the 19th and 20th-century contexts and maintains that in Marx's time, landed property was "a residual from feudalism" and that the class power of landlords generated from pre-capitalist institutional arrangements. "[I]n the urbanized world, the distinction between capitalist and landlord has blurred concomitantly with the blurring of the distinctions between land and capital and rent and profit" (Harvey 1974a, 241). Therefore, Marx's theory of rent needed to be reevaluated and updated for analyzing modern urbanization processes to incorporate these new trajectories that predominantly include the housing sector and particularly low-income tenants (Harvey 1976, 268).

Land rent is appropriated in land markets via monopoly and financial relations that govern them. "What is bought and sold is not the land, but title to the ground-rent yielded by it" (Harvey 2006 [1982], 367). Harvey argues that investments in land are a type of "interest-bearing investment" (ibid.). "The buyer acquires a claim upon anticipated future revenues, a claim upon the future fruits of labour" (ibid.). "Title to the land", therefore, is "a form of fictitious capital" (ibid.). Central to land markets is speculation (ibid.). Harvey mentions two regulating forces for land prices: interest rate and "future rental revenues" (ibid.). "Movements in the interest rate impose strong temporal rhythms and bring land price movements within an overall framework defined by the relation between the accumulation of capital and the supply and demand for money capital" (ibid.).

Landed property assumes "an active role in creating conditions that permit future rents to be appropriated" (ibid. 368). Such an active role allows landowners to "force production on the land into new configurations and even push surplus value production on a scale and with an intensity that might not otherwise occur" (ibid.). Furthermore, it gives the landowners "co-ordinating functions and thereby legitimates and justifies the appropriation of rent within the overall logic of the capitalist mode of production" (ibid.).

Land markets regulate "the allocation of capital to land and thereby [shape] the geographical structure of production, exchange and consumption, the technical division of labour in space, the socioeconomic spaces of reproduction, and so forth" (ibid. 369). Land markets also allow the circulation of interest-bearing capital to coordinate land use in terms of the surplus value production in general (ibid. 368). "[T]the circulation of interest-bearing capital promotes activities on the land that conform to highest and best uses, not simply in the present, but also in anticipation of future surplus value production" (ibid.). That is made possible by treating land

"as a pure financial asset" (ibid.). This way landowners "coerce . . .or co-operate with capital to ensure the creation of enhanced ground rents" (ibid.).

Harvey articulates land rent as a linchpin of his analysis of capitalist urbanization processes as he structurally relates rent appropriation to overall capital accumulation processes. In this process, "landowners must necessarily take an active role in the pursuit of enhanced rents. . . . The freer interest-bearing capital is to roam the land looking for titles to future ground-rents to appropriate, the better it can fulfil its co-ordinating role" (ibid. 369). Land prices are the key indicator to measure investors' attraction to land and land markets are the "powerful force making for the rationalization of geographical structures in relation to competition" (ibid.). Harvey gives an example of transport relations. He (ibid.) writes,

> The stimulus to revolutionize these arises out of the need to diminish the circulation time of commodities, to extend markets geographically and so simultaneously to build the possibility for cheapening raw material inputs, expanding the basis for realization while accelerating the turnover time of capital. If rent depends upon relative location, and the relative location stands to be transformed by improved transportation, then transport investment stands to enhance land values in areas proximate to it.

The categories of rent Harvey discusses are differential rent I and II, monopoly rent, absolute rent, and class-monopoly rent (see Appendix 1). In the urban context, he (2006 [1982], 354-355) analyzes both differential rent I and differential rent II in terms of relative locational advantage, realized through an interplay between extensive and intensive movements of capital. Harvey contends that locational advantage is not unique to agriculture and is just as significant in other sectors. Besides, "the 'permanence' of locational advantage is perpetually in the course of alteration through investment in transportation and the shifting geographical distribution of economic activity and population" (ibid. 354). Locational advantage appears to connect the creation of differential rent I and II to urbanization processes. The interplay between differential rent I and II explains the ways in which the two types of rent set the basis and impose limits on one another (ibid.).

Harvey finds monopoly rent relevant in two cases. In both cases, the concept of monopoly rent is construed in terms of monopoly pricing. "The opportunity to charge a monopoly price creates the opportunity for the landowner to reap a monopoly rent", Harvey writes (1973, 179). The first case considers a condition when "[p]restige and status locations" create the opportunity for monopoly pricing (Harvey 2006 [1982], 350). And the second case is when "landowners may refuse to release the unused land under their control unless paid such a high rent that the market prices of commodities produced on that land are forced above value" (ibid.). In both cases, "the scarcity of land" and "the collective class power and position of the landed interest" are prerequisites of landed property's direct interference with "surplus value production" and charging monopoly prices (ibid. 350; 353).

In his review of the concept of absolute rent, Harvey (1973, 181) writes, "[e]xcess profits can therefore 'fleetingly' emerge in all areas of production . . . [but] in agriculture excess profits are institutionalized into absolute rent through the monopoly power of private property" as absolute rent is responsible for the conditions that "give rise to monopoly price" (ibid.). But Harvey is skeptical of Marx's analysis of sectoral rates of return with his labor theory of value. He writes, "[t]he profitability of housing construction is heavily dependent on speculative movements in housing prices and rent extractions (both land and interest) via the credit system" (Harvey 2016, 48). Absolute rent, according to Harvey, is conditioned through spatiotemporal barriers to "the overall equalization in the rate of profit among the different spheres of production" (Harvey 1973, 181). Harvey applied an interpretation of the concept of absolute rent in terms of rents in absolute space as a synthesis of the concepts of monopoly and absolute rent (Harvey and Chatterjee 1974). In a related article (1974a, 241), too, Harvey treats absolute rent and monopoly rent very close to one another. Elsewhere (Harvey 1973, 181), he writes, "[t]he distinction between monopoly and absolute rent can perhaps be rescued by regarding the former as operating at the individual level (a particular owner has something which someone particularly wants or needs) and the latter as something which arises out of the general conditions of production in some sector (it is a class monopoly phenomenon which affects the condition of all agricultural landowners, all owners of low income housing, etc.)". Later Harvey conceptualizes this type of rent distinctively as class-monopoly rent (Harvey 1974a; 2006 [1982]) and calls the concept of absolute rent (in its original conceptualization) "irrelevant" and "meaningless" (Harvey 2013 interview in Barnes and Sheppard 2019, 207); he does "not think it works" (Harvey 2010, 81).

For Harvey, class-monopoly rent is inferred to explain broader, structural power relations that shape and limit rents derived from the monopolistic ownership of land. Such structural relations are, therefore, articulated in class terms. According to Harvey (1974a, 243), class-monopoly rent is appropriated by a class of "speculator-developers", and it is formulated to explain a socio-spatial conflict between them and a class of consumers of land use. He writes, "[t]he level of class-monopoly rent realized by speculator-developers depends upon the outcome of the conflict of interest between them and the various consumer groups who confront them in the market" (ibid.). The speculator-developers class needs particular institutional, regulatory arrangements to establish their interest through, for example, physical planning arrangements such as zoning, redlining, and so on, as well as systematic taxation that mainly benefits the rich (ibid.). He articulates the socio-spatial conflict that regulates the rent with two different scenarios. He (ibid.) argues,

> If the speculator-developer can persuade upper-income groups of the virtues of a certain kind of housing in a particular neighbourhood, gain complete control over the political process, and so on, then the advantage lies with the speculator-developer. If consumers are unimpressed by the blandishments of the speculator-developers and

have firm control over the political mechanisms for land-use regulation and the provision of infrastructure, then the class-monopoly power of the speculator-developers will be contained. But if certain minimum rates of return are not realized, the speculator-developer will pull out of the business until rates of return rise.

3.6. Marxist Critiques of Harvey's Model of Land Rent

Irene Bruegel sets forth one of the earliest theoretical, critical engagements with Harvey's model of land rent from a Marxist perspective. She (1975, 36) began her critique of Harvey by disputing his interpretation of labor theory of value and the ways in which it could be operationalized to explain the urban process and development under capitalism. Harvey criticized neoclassical urban rent models (e.g., Alonso 1964) that fail to analyze urban structures in terms of use-value. According to Bruegel (1975, 36), Harvey's application of value is limited; as "by exchange value Harvey means market prices, by use value he means the individual's subjective valuation". The difference between the two (as Haila (1990) also points out) creates "consumer's surplus", which Harvey (1973, 169) defines as "the difference between what an individual actually pays for a good and what he or she would be willing to pay rather than go without it". The concept explains how lower-income groups in the city systematically tend to lose favorable locations (including better housing conditions) to the urban rich. Bruegel (1975, 36 emphasis in original) says, "labour power is paid for at its value, i.e. the costs of reproducing it and *not* at the value of the commodities it produces". Harvey's treatment of exchange value in terms of the market price of commodities (here housing and property values), according to Bruegel (ibid.), implies that for him, the social tension over urban resources is explained at price levels (income gaps) and the tension between landlords and tenants is equivalent to the social tension between the wage laborer and the capitalist (also Edel 1976; 1992).

However, Bruegel continues, one need not equate tenant-landlord conflict to worker-capitalist conflict to develop a Marxian urban theory. She (1975, 37) maintains, "the tenant may be 'cheated' under capitalism, but this is not fundamental to the system: the exploitation of the worker is". More important, as Bruegel (ibid. 38) points out, if, for Harvey, the urban socio-spatial tension is explained at income levels, his critique of neoclassical models (Alonso and Muth) loses its touch as their models do not 'ignore' income stratifications. The question they fail to deal with is that they find "no reason to ask why there are huge disparities of income under capitalism" and not whether income disparities exist (ibid.). Harvey dealt with this anomaly in his later works (especially in the *Limits*) by explaining the urban process in terms of expansion into the secondary circuit of capital (the capital switching

thesis) and the tendency to treat land as a financial asset, thereby relating it to broader processes of capital accumulation.

Bruegel (ibid. 39) stresses that for Marx, rent is construed at the macro-level as an outcome of productive relations over land. "Unlike Harvey [Marx] keeps quite separate the question of the rents paid for by workers for their housing and does not appear to have considered rent for unproductive activities explicitly" (ibid. 39-40). Therefore, Bruegel is critical of Harvey's attempt to analyze high housing rents in the inner-city as differential rent. Harvey, according to Bruegel, argues that the concentration of unproductive activities in central urban areas with "highest rental values" implies "rent determining use" like in the case of absolute rent and not "use determining rent" as it is with differential rent. Bruegel asserts that such an argument implies "capitalists are acting irrationally in locating offices in city centres" (ibid.). She elaborates that differential rent still functions at a sectoral level as the land users compete for more productive use. But that does not mean that differential rent has a direct impact on housing prices. On the contrary, it means that differential rent is "probably the main influence which the factor of location has on [housing costs]" (ibid.).

Bruegel (ibid. 41) finds the concept of monopoly rent "to be something of an aberration" with "limited importance" for Marx. The reason is that it is rooted in monopoly prices, unlike the concepts of differential rent I and II and absolute rent that are rooted structurally in the dynamics of productive capital. She further argues that the existence of monopoly power (central to basically all land and resource relations) cannot be easily translated to monopoly prices and, therefore, monopoly rent. She (ibid.) contends,

> It is not clear that revenue varies with location independently of the variation of productivity with location for activities other than shops and consumer services, so while there may well be instances where the monopoly profits of such enterprises are transformed into monopoly rent, there seems to be no basis for asserting that this is a generalised phenomenon.

She (ibid. 41) identifies a few gaps in Harvey's treatment of the concept of absolute rent. First, the precondition of absolute rent is inter-sectoral dynamics (in terms of the organic composition of capital) that allow the construction sector to yield an excess profit compared to the manufacturing sector. The second point refers to historically-specific conditions that allow absolute rent to arise; that is, in case the excess profit disappears (i.e., profits in the manufacturing sector do not fall), absolute rent disappears too. The third point is that, unlike differential rent, absolute rent affects the prices of commodities produced on the land with implications for class conflict. "This excess price then cuts into the surplus value of the capitalist class as a whole by raising the costs of producing the labour force, i.e. costs of subsistence" (ibid. 43). In other words, absolute rent is directly involved in the distribution of surplus value between sectors. Besides, for Marx, Bruegel argues, absolute rent "is not just any form of excess rent payment, i.e. it is a long run rather

than a short run phenomenon" (ibid. 43). Similarly, Ive (1974, 26) contends, the difference between differential rents and absolute rent is that in differential rents, the landowner intercepts excess profits "that could otherwise go into 'the private capitalist (farmer's) pocket'". In the case of absolute rent, such excess profits intercepted by landowners "would otherwise go into the general capitalist fund to raise the general rate of profit but reduce the rate of profit in that branch to the general rate" (ibid.).

Bruegel further criticizes Harvey for introducing a generalized category of class-monopoly rent, "which, as defined, could include all rent" (Bruegel 1975, 43; also Edel 1976). She stresses, "Marx's distinctions or categories are important if one is to understand whether any particular rent payment is a temporary, chance, phenomenon or whether it is a long-term, structural, feature of the system. The argument is not for orthodoxy as such–that Harvey is wrong *because* he departs from Marx's analysis of any particular phenomenon–but rather that Harvey's account is incoherent" (Bruegel 1975, 43, emphasis in original). According to her, with class-monopoly rent, Harvey "is trying to show that finance capital acts to create distinctive submarkets in housing, which themselves increase frictions of distance and so the possibility of extracting absolute rent, or a form of it, class-monopoly rent" (ibid. 44). Instead, she (ibid. 43-44) calls for empirical analyses on, for instance, planning practices as preconditions of rents' existence. "The construction industry for example, with its traditional low organic composition of capital, may well be a source for such surplus profits, and planning controls of the British type—development control green belts and industry and office development permits—could well act as a barrier to capital investment and hence promote absolute rent" (ibid.). According to Bruegel (ibid. 46), three presumptions are behind Harvey's reasons to replace the concept of absolute rent with class-monopoly rent: a) his focus on income rather than value to explain socio-spatial conflicts; b) his understanding of class as a group with common interests; and c) his emphasis on space rather than sector and scale in creation and appropriation of rents.

The main problem with Bruegel's account is that, in the end, she fails to propose a heuristic or an analytical framework to rival Harvey for operationalizing rent theory for urban research. Instead, she exemplifies potential scenarios regarding barriers to the equalization process while also providing a remarkable elucidation for Marx's formulation of rent and development of rent theory in class and inter-sectoral economic relations. But she does not go further and remains at the conceptual level in her critique.

Murray (1977; 1978), in his seminal and exhaustive two-part review of Marxian rent theory, attempts to present a coherent and committed portrait of Marx's rent theory and the centrality of the labor theory of value in his entire conceptual apparatus while also responding to its prominent critics. Geography and the urban, so central in Harvey, Bruegel, or Edel, are only discussed passingly in Murray. Nevertheless, the central debate in Marxist economics over the primacy of production versus distribution, and their relation to value theory, seems to be a major

critical concern for Murray (1977). He writes, "it is only through starting from value, and never losing its thread, that we can adequately understand the determination of distribution by production, and the contradictory development of their forms" (ibid. 119). And he diagnoses that starting from production prices and not values is central to all rent theorists "who adopt monopoly rent in preference to absolute rent" (ibid.). Discussing urban applications of rent theory, he (ibid.) writes, "[i]n urban theory, for instance, the dominant approach is barely distinguishable, save in terminology, from traditional monopolistic competition and bilateral monopoly theory".

He particularly criticizes Harvey (1973) for analyzing capitalist cities "as aggregations of sub-markets strategically separated by landed proprietors" like "man-made islands" and then calling "the rent earned from them absolute rent". Murray (1977, 119) says, Harvey "is in no way seeking to connect rent to value, or to see how labour in these sub-sectors is commensurated with the rest of social labour. The barriers to the free flow of capital to which he refers are similar to the traditional 'barriers to entry' which can apply to any temporary monopoly. The resulting rent is merely a version of monopoly rent" (ibid.). Furthermore, Murray argues such an interpretation lacks a "theoretical basis" to adequately "engage with bourgeois theory on the major issues of rent theory" (ibid. 120). Murray (ibid. 122) detects this issue in other urban political economists such as Clarke and Ginsburg (1975), Byrne and Beirne (1975), Walker (1974), and Edel (1976). According to Murray (1977, 120), such an interpretation tends to generalize rent "to all sectors with diminishing return" and fails to relate it to long-term contradictions of the capitalist economy, including inter-sectoral competition and crisis.

3.7. Summary

Harvey provides a systematic and structural analysis of capitalist urbanization processes in which rent creation and appropriation are central. His model goes significantly beyond neoclassical models as it relates investment choices and rent relations to broader structural and contradictory processes of capital accumulation instead of individual investors' and households' behaviors and preferences. His analysis, however, is not consistently structural as, in the final analysis, it relies on exogenous monopoly power relations and explains the level of rent with the power of the landlord class. More importantly, the historical contingency of rent creation and appropriation is absent in Harvey's model. He conceptualizes the capital switching thesis to explain the capital flow onto land in terms of a sectoral shift in investments. But beyond the monopoly pricing mechanism and indicators such as construction activity, he does not offer adequate analytical tools for empirical analyses of rent rates, ceilings, and magnitudes, as well as capital switching. His analysis also lacks conceptualization of macro-level dynamics governing micro-

level investment decisions. The alternative TILR is therefore concerned with improving on Harvey's model by offering a consistently endogenous structural analysis of rent relations that at the same time appreciates the historical contingency of rent creation and appropriation and provides analytical tools to analyze and explain rent rates, ceilings, and magnitudes at both macro and micro levels.

Chapter 4. The Evolution of Rent Applications by Harveyan (Urban) Economic Geographers since the 1980s

Harvey's SMLR provided an analytical tool (monopoly pricing mechanism) to explain the rise of rent. Using rent theory, he articulated an innovative explanatory conceptual apparatus for his structural political-economic analysis of capitalist urbanization processes. However, monopoly pricing mechanism aside, he did not offer analytical tools, consistent with his structural point of departure, for measuring monopolistic rates of return, which he regards as the source of rent, or capital switching, with which he explained the sectoral movement of capital. In response, the next generation of urban economic geographers, inspired by his systematic and structural critique of neoclassical models of rent and urbanization, began with problem-solving within the research program. It was up to them to operationalize the SMLR, modify and apply it to various urban cases, resolve its potential empirical (that is, theory-data) anomalies, explain newly discovered (social, political, economic) aspects of capitalist urbanization processes, demonstrate its methodological superiority against competing explanations advanced by the institutionalists, and potentially take it to new frontiers.

4.1.   Periodizing Rent Applications

The bibliometric analysis of rent applications in urban geography (presented in Chapter 5) indicates three main periods since 1970. The first period pertains to the theoretical foundation. It involves initiating the debate and elaborating building blocks by early heterodox urban economic geographers led predominantly by Harvey from 1973 to the early 1980s. The second period (which comprises the second and third periods of Haila's (1990) taxonomical periodization) encompasses the debate over urban applications of mostly Marxian (but also Ricardian) rent theory. The debate engaged the Harveyans, on the one hand, and the institutionalists, on the other, and spanned from the late 1970s to the late 1990s. The first and second

periods epitomize a 'progressive' phase, in a Lakatosian sense (see Chapter 2), expanding the research program's 'excess empirical content'. Finally, in the third period, since the late 1990s, with the institutionalists abandoning rent theory altogether, a mutated version of the SMLR arose, incorporating some central arguments of post-Keynesianism concerning the increasingly dominant financialization thesis, which promised a post-Keynesian-Harveyan synthesis (Manning 2020). The third period represents a 'degenerating' phase of the research program involving 'problem-solving within the research program' and articulating 'protective belts'. After a brief overview of the first period, the present chapter focuses more extensively on the second and third periods and reviews some prominent applications of the SMLR. It mainly concentrates on how Harvey-inspired urban economic geographers dealt with the anomaly mentioned above and what analytical tools they developed for empirical operationalizations of the SMLR.

The first coherent periodization of rent debates in urban geography was developed and presented by Haila (1990). Her taxonomical periodization of three periods of consensus (the 1970s), transition (late 1970s and early 1980s), and rupture (mid-1980s until early 1990s) was concerned with consolidating weaknesses of Marxian interpretations for urban applications and strengths of institutionalist interpretations. Accordingly, while her taxonomy has been highly influential since its publication, it has also been subject to perpetual criticism. Haila, for instance, has been criticized for diverging from rent theory and switching to an empiricist antipathy toward general theories (Kerr 1996, 294; Ward and Aalbers 2016, 1772). Moreover, although she borrows her main explanation for rent realization from Harvey, i.e., landowners treating land as a financial asset, she "departs from him in arguing that it cannot be theoretically deduced from posited tendencies internal to the logic of capital, but instead must be empirically investigated with an account of landlords' behaviour" (Ward and Aalbers 2016, 1772). For Haila, Kerr argues, rent is at the same time a consequence of the dynamism of real estate markets and a coordinator of such markets (Kerr 1996, 82).

Three influential contributions since the mid-1990s stand out for their critical engagement with Haila's scholarly project, and this chapter begins with reviewing them. The central element common in these articles (Kerr 1996; Park 2014; Ward and Aalbers 2016) is to evaluate 'the explanatory power' (á la Lakatos) of dominant approaches during each period for geographic research. Therefore, their studies function as a starting point for my critical review of Harveyan geographers' innovative methodological strategies to operationalize the SMLR.

4.1.1. Marxian Geographers and the Rent Debate in the First Period (the early 1970s to the early 1980s)

Park (2014, 93), in his exhaustive survey of the historical development of rent theory within geography and urban research, and heavily inspired by Haila (1990),

identifies three stages of consensus, transition, and rupture. The first stage represents the inception of debates within geographical thought on economic mechanisms of investment in land predominantly influenced by the debate between Ricardian, Marxian, and neoclassical economic theories in the 1960s and the 1970s. The second stage represents the divergence between contending theories and the rising popularity of the notion of "social relation around land" (Park 2014, 99) that led to a "premature stagnation" since the 1980s.

The academic scene then was dominated by neoclassical interpretations of rent theory during the 1990s, followed by a hiatus in the 21st century until the Great Recession. Park's diagnosis of the etiology of the stagnation is similar to mine. That "[a] few fundamental problems in the theory were revealed during the period of heated [abstract] debates and the lack of empirical analysis also contributed to the decline" (ibid. 106). Therefore, he proposes establishing "a consistent theory of the mechanism of land rent" informed by "a detailed analytical approach to the categories of land rents", i.e., operationalization of the theory, reexamining "the debates about the condition of absolute rent and the relationship between it and monopoly rent" lest remaining within "abstract discussion[s]" (ibid. 106). In his evaluation of the debate in the 1970s over absolute rent and monopoly rent, Park (ibid.) declares the debate "technical" and, to a certain degree, unnecessary. The main problem is, Park (ibid. 100) points out, "the deficiency in the analytical approaches to the mechanism of land rent impeded further development of the theories and turned them in the direction of abstract discussion, without concrete empirical research".

4.1.2. Marxian Geographers and the Rent Debate in the Second Period (the late 1970s to the late 1990s)

In his review of debates over rent in urban contexts, Kerr (1996) periodizes rent theory in terms of industrial production cycles. He (ibid. 59) writes, "[t]his debate started in the early 1970s when the rapid increase in land and house prices coupled with a boom and subsequent bust in the commercial and industrial landed property markets led to a search for an explanation in the theory of rent". His review of the debate focuses on three key figures: Ball, Harvey, and Haila. What inspires him to use this taxonomy is Haila's (1990) taxonomical periodization that identifies three potential tendencies, a) "dogmatic" attempts to develop a general theory of rent, b) empirical attempts to measure urban rent and its social impacts, and c) an "unbiased" attempt as an alternative to the other two tendencies.

Kerr (1996, 63) agrees with Haila that "[t]he 'crossroads' exist, but, contrary to Haila, this emerged in the early 1970s, not in the 1980s". He suggests "the way forward is to 'return' to one particular classical authority, Marx, as the point of departure and not to attempt to develop, as does Haila, the dominant tendency within the contemporary debate" (ibid.). Haila's approach, Kerr clarifies, "leads from the

crossroads to the magic roundabout" (ibid.) as it "starts and ends with the activities of landowners, rather than with capital accumulation and the capitalist users' of landed property" (ibid. 80). Contra Haila, Kerr (ibid. 79, emphasis in original) argues that debates over rent theory and its relation to classical political economy categories should instead point to the "possibility that: (a) previous attempts to develop a theory of rent in terms of the categories of *Capital* have *misapplied* Marx's method; (b) capital, value and profit are *not* categories belonging to 'several other theories' but dialectically related categories internal to the 'theory' of capitalism; and (c) the development of categories such as rent may presuppose others in order to render the nature of rent in capitalist society intelligible". As Kerr points out, Haila's 'unbiasedness'[7] has much more in common with empiricism and represents a shift to neoclassical economics.

Kerr's critique of both Ball and Harvey is methodological—though he is, in principle, more sympathetic toward Harvey. His main critique of Ball targets Ball's failure to appreciate Marx's theory of rent and its categories in terms of different levels of abstractions (ibid. 64). He (ibid. 67), for example, writes, "contrary to Ball, Marx's categories of rent were not categories of market structure but of the ways in which landed property mediates the production and circulation of surplus value". Marx conceptualized them "at a higher level of abstraction than the contingencies of the market" (ibid.). And Kerr establishes his argument by saying that Ball's call for deserting rent theory, instead of refuting Marx, refutes Ball's own model as it fails to provide any explanatory tool for the existence of any type of rent[8].

Kerr's critique of Harvey follows a similar methodological approach. Harvey is criticized for identifying "dualisms" instead of dialectically engaging with them (ibid. 70). And in the case of rent, such a dualistic approach tends to neglect the dialectical relationship between production and circulation as well as landowners' role in class relations over land, based on which Harvey (2006 [1982], 331-332) criticizes Marx. According to Kerr, Harvey shares a problematic understanding with Ball and Haila that in order to explain the presence of rent in capitalist cities today, one needs to depart from Marx's understanding of landed property as a parasitic class force and understand its "active and coordinating role within capitalism" (Kerr 1996, 71; also Harvey 2006 [1982], 361). Kerr maintains, "[t]his leads Harvey to state that 'it is plainly in the interest of capital in general to keep absolute and monopoly rents strictly within bounds, to ensure that they remain small (as Marx insisted they must be) and of sporadic occurrence'" (Harvey 2006 [1982], 361 in

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[7] Haila's critique against the limited applicability of Marxist urban rent literature, however, is crucial. She (1990, 280) says, "[i]f one cannot apply the theory of rent in explaining land prices of the 1980s without first solving the transformation controversy and the like, the relevance of the theory of rent is understandably at stake".

[8] Ball (1985, 504) argues that instead of rent, social relations of building provision are to bridge the theoretical gap "between ultimate land use and initial land ownership", while "the competition between potential users of land" determines its price (ibid. 503).

Kerr 1996, 72)". However, according to Kerr, "Marx did not 'insist' that those forms of rent must be kept within bounds, but rather pointed to their tendential limits and subordination to the competitive movement of capital" (ibid. 72).

Kerr (ibid. 73) criticizes Harvey for interpreting modern landed property as "a superlative set of arrangements totally adapted to capital's requirements" (Harvey 2006 [1982], 361 in Kerr 1996, 73). Kerr questions the causal relations implied in Harvey's interpretation and his explanation of the ways in which such arrangements give rise to absolute or monopoly rents, and therefore Kerr finds Harvey's treatment of them anomalous. He further clarifies, "this interpretation appears to miss the point that the forms of landed property in other epochs were suitable for, and constituted in terms of, these epochs, as is the case in capitalism" (ibid.).

In their review of the development of rent theory since the 1970s, especially for the 'rupture' period in the 1980s, Ward and Aalbers (2016) agree with Kerr's (1996) assessment that institutionalist interpretations dominated the period. They identify three critical interpretations to exemplify their assessment of the so-called rupture period. These three interpretations are respectively capital switching (Bryson 1997; Scott 1982; Smet 2016), institutionalist (Ball 1998; Guy and Henneberry 2000; Healey and Barrett 1990; Needham et al. 2011), and rent gap (Bourassa 1993; Clark 1995b; Hammel 1999; Smith 1979) approaches.

Ward and Aalbers criticize institutionalist interpretations that tend to conflate land and capital, hence their returns in the form of rent and profit, by pointing to their difference in terms of origins and characteristics (Ward and Aalbers 2016, 1773). "The conflation of rent and capital in actual practice is a fundamental contradiction of capitalism exactly for this reason and ends in disastrous rounds of market 'rationalisation' being applied to socio-spatial configurations" (ibid.). And to avoid such conflations, contra Ball (1985), one needs a proper theory of rent that explains patterns and logic behind empirically corroborated mechanisms.

Ward and Aalbers (2016, 1761) argue that the ongoing marginalization of rent theory (with all its variations) in urban political economy is due to the failure of its main contributors since the 1970s to unearth "the explanatory power [of rent theory] in understanding the geographies of capitalism". They (ibid.), in response, distinguish between land rent as the total rent paid by the capitalist tenant to the landowner for the right to use land and improvements built on it and "[g]round rent . . . paid for the use of the land, minus that paid for the fixed capital on the land (buildings and other appurtenances)" (ibid.)[9]. Ward and Aalbers acknowledge that such a distinction might not be crucial. Nevertheless, it constitutes what has been at

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[9] I have reservations about their distinction between land and ground rent. I do not define land rent, here, as a price paid for 'the right to use land and imporvements built on it'. For me, land rent refers to a relative price of land as such. And I consider the conceptual distinction between ground and land rent perhaps even superfluous. That is why classical political economists did not make that distinction. Nevertheless, Ward and Aalbers's analysis of analytical implications of shifting the focus away from "the explanatory power" of rent theory in understanding capitalist urbanization processes is crucial.

stake in the entire rent debate in the first and second periods that both methodologically and theoretically turned its focus on ground rent. Whereas, for them, land rent represents "a straightforward return on capital invested"—making ground rent "the major determinant of both the contracted rent paid by tenants and the land's purchase price" (ibid.). And that, in effect, has shaped the central question of rent theory around justifying or questioning its existence: "[w]hy does land command large values, the largest portion of which cannot be attributed to labour or interest on capital investment but seemingly appears for nothing" (ibid.)?

4.2. Theoretical Challenges and Controversies over Rent Categories in Urban Contexts

4.2.1. Absolute Rent

Ward and Aalbers (ibid. 1762) argue that absolute rent "has been rejected in the literature but should be the basis of a critical theory of monopolies" (ibid.). They contend, absolute rent "as the form of rent that arises only through the violence of asserting property rights or class position . . . should not only be rehabilitated but requires extension beyond land to an increasingly extractive financialised capitalism rife with distributional conflicts" (ibid.). They suggest incorporation of "a theory of monopoly pricing" into rent theory is needed to theoretically allow for "the existence of 'natural' monopolies . . . where the unavoidable scarcity of something means that its price is limited only by effective demand" as well as for "the existence of 'absolute rent', where the barriers imposed by the existence of a rentier class in itself is the source of rent" (ibid.).

Monopoly rents, as such, depend on "the impairment of competition which, as such, does enter into the costs of production and affects the price of commodity produced" (ibid.). And in "absolute monopoly rent", specifically, "the impairment is attributed to the existence of the class of rentiers themselves" (ibid. 1763-1764). They write, "Harvey's work on the notion of class-monopoly in the 1970s showed this to be possible in a modern urban context, and it is bemusing that the definition of absolute rent was obfuscated to the point where such analyses were for a long time ignored before being rediscovered as 'class-monopoly rent' but not integrated to wider rent theories nor acknowledged to be a form of absolute rent" (ibid. 1771). Therefore, they maintain, notwithstanding Harvey's attempt to reintroduce the concept of absolute rent in the form of class-monopoly rent, "a Marxist theory of monopolies" has been omitted from the debate, whereas "it should have been highly applicable to a contemporary economy rife with rentiers of immaterial goods in a financialised 'knowledge' economy" (ibid.).

Ward and Aalbers's alternative (conceptualizing absolute and monopoly rents as a single category) is reminiscent of Ramirez (2009). He (ibid. 89) claims absolute rent will not "disappear altogether once the social productivity of agriculture (reflected in its organic composition) reaches or is equal to that of manufacturing industry because, as long as land is privately owned, landowners will continue to receive a rental payment for the use of the indestructible powers of the soil". Absolute rent, in such a scenario, "becomes a form of monopoly rent (surplus profit) whose source is found outside of agriculture and is redistributed to landowners via the price mechanism from more competitive sectors (including wage-goods industries)" (ibid.). Similarly, Purcell et al. (2020) analyze categories of absolute rent and monopoly rent as a singular category of monopoly rent, which they ascertain is worthwhile in explaining patterns and drivers of the financialization of land. Manning (2020, 35) diagnoses a crucial (theory-data) tension in such interpretations, for they tend to conflate rent and interest, which she traces back to Harvey and his conceptualization of "rentier class". "This conflation", she clarifies, "obliterates all that is specific about the form of ground rent—especially the finitude of land (key to its monopolizability)" (ibid.).

Park (2014, 92) suggested a methodology similar to classical political economists to measure rent magnitudes. And for absolute rent, he writes, "the amount of absolute rent is explained as the difference in value over the price of production of the product in a sector", where "value is the sum of constant capital, variable capital, and surplus value" and "price of production is the sum of cost of production [C+V] and average profit". He defines value as "the average value of a product in a sector", and absolute rent is defined as the difference between excess surplus value and average profit. However, empirically and similar to Harvey and Chatterjee (1974), Park (2011) divides the city into housing submarkets formed around employment and residential centers. Absolute rent, it is argued, arises due to scarcity in stock and "favorable economic condition[s]" in certain groups of houses (ibid. 84).

Kerr (1996, 81, emphasis in original) argues, "*absolute rent* is not some aberration, but a *necessary* barrier posited by capital". Absolute rent is "a *necessary* form through which capital appropriates and commands space while at the same time enforcing labour's exclusion from that space, thereby reproducing the commodity status of labour power" (ibid. emphasis in original). And "[d]ifferential rent subsists within the frame of absolute rent and yet it also tends to limit the magnitude of absolute rent as capital continually transmutes its geographic mode of existence through crises of overaccumulation" (ibid.).

4.2.2. Class-Monopoly Rent

Class-monopoly rent is advanced, as an alternative to absolute rent, to explain rent on the marginal plot and "is levied because of the monopoly control that landlords as a class have over land, a necessary input of production" (Sheppard and Barnes 1986, 504). The level of class-monopoly rent depends on the power of the landlord

class (ibid.). Wyly et al. argue that the realization of class-monopoly rents depends on "risk-based pricing" as "credit flows etch out intricate urban and regional geographies of class-monopoly rent that are rooted in generations of racialized inequalities" (Wyly et al. 2009, 334). Land rent is extracted from "unimproved land" because although "the cost 'production' for the landowner is zero, . . . the owner receives a price for its use; the class of landowners, by definition, enjoy a monopoly that commands rent" (ibid. 335). They elaborate, "[c]*lass* matters because, in all capitalist societies, the rights and privileges of ownership are central to power relations, political conflict and social inequality. *Monopoly* matters not primarily because, as Marx suggests, the supply of land is limited, nor because landowners can become price-makers, but rather because of the inherent monopoly associated with the legal status of ownership" (ibid. 336, emphasis in original).

But class-monopoly rent for Wyly et al. (ibid. 336-337) is understood in local terms in that "the use of highly mortgaged 'homeownership' [connects] national and transnational capital markets to the lucrative profit margins of local class-monopoly rents". That differs from Harvey's notion of class-monopoly rent, in which the rent performs a regulating, macro-scale role. Wyly et al. treat class-monopoly rent in terms of monopoly pricing at local levels. Subprime lending itself, they argue, ensues from an extensive, deregulatory change in policy in the United States since the 1980s that favored "predatory" and reckless lending on the one hand and more and more limited "publicly subsidized affordable lending" on the other (ibid. 337). The result is "an unprecedented wave of capital investment targeted mostly but not exclusively to low-income people and places, racially and ethnically marginalized borrowers and communities, and other 'new markets'" (ibid.).

Despite the empirical significance of Wyly et al.'s (2009) study to map the spatiality of racial inequality, it fails to relate the creation and appropriation of class-monopoly rents to broader accumulation tendencies in capitalist cities today, a relation which, as we have seen, plays a crucial role in Harvey's formulation. This task is taken up by Anderson (2014). Anderson (ibid. 14) argues, "the conditions through which class monopoly rents are realized have changed since first discussed by Harvey". He elaborates that "the ascendency of neoliberalism represents a return to market-oriented practices mobilized by the very neoclassical economic principles sharply critiqued by Harvey", which renders class-monopoly rent "acutely relevant to the critical project of fracturing the resilience of neoliberal hegemony" (ibid.). Class-monopoly rent illuminates "the complex relationships between landowners, producers, and consumers within such processes of change", and neoliberalism functions as a context to highlight "the historical trajectories of political-economic transformation over the past four decades" (ibid. 14).

Anderson's (ibid. 15) starting point is Harvey's articulation of class-monopoly rent in which urban land and housing markets are collectively and individually controlled by a class of "actors", which he elaborates as "developers, landlords, homeowners, and financial institutions". This class of actors produces an "'artificial scarcity' within urban housing markets" through "active manipulation of

supply/demand conditions by landowners . . . who legally possess the *monopoly* power to collectively (but competitively) exert their 'class interest' over the use of their property" (ibid. emphasis in original). Harvey's example of this process is in "removing rental units from circulation to maintain acceptable rates of return" (ibid.). This class-monopoly power is rewarded through class-monopoly rent payments, whose creation and appropriation have implications for the socio-spatial differentiation of "residential landscapes" (ibid. 16). This process could, at the same time, "harm the collective" as due to its dependence on financial institutions, it can "lead to speculative bubbles, oversupply of units and lowered rents, and invariably crisis, the effective regulator of the market absent active or conscious coordination" (ibid. 15).

Anderson (ibid. 18-19) exemplifies policies "such as public housing demolition, historical preservation and tax-increment financing" that in Chicago "have unequivocally unfolded in the service of clearing disinvested structures (and their low-income inhabitants) and stimulating private market investment and rising land values in spaces targeted for gentrification". This process culminates through disinvestment in demolished building areas, ensued from "stockpiling of vacant land", reduction in "the supply of high demand affordable housing" and public housing production in general, and finally, increasing property values (ibid.). The local state and developers, therefore, constitute "the class of actors" Harvey anticipated in his formulation of class-monopoly rent, and land rent itself is analyzed in terms of "revenue streams" due to "supply-reducing strategies and the value-enhancing 'uses'" (ibid. 19). Anderson also uses these variables and indicators in his study of Portland (2019).

4.3. Urban Applications of Rent Theory

Over and above debating theoretical and empirical power of rent theory for urban research (publicized in the debate with the institutionalists in the second period discussed above), heterodox urban economic geographers since the late 1970s began to extensively operationalize Harvey's SMLR for a variety of contemporary urban issues. They collectively helped to relate urban economic geography to urban social geography, even though, I would argue, they by no means can be considered successful in their debate with the institutionalists. Harveyan geographers' theoretical (and analytical) domination in the field since the late 1990s, I would argue, is primarily due to the institutionalists forsaking rent altogether, moving instead toward microeconomic analyses of urban land markets, and not necessarily to methodological superiority of the SMLR.

Connections to urban social geography were consolidated by developing a series of mid-range theories in most cases and incorporating already existing ones in others. To name a few, most urban problems discussed and analyzed by urban

geographers deal with various forms of socio-spatial inequality, unevenness, suppression, and marginalization. In other words, the focus of inquiry in this period is on the ramifications of capitalist urbanization processes. The aim is to relate these ramifications to broader processes of capital accumulation using primarily Harvey-inspired conceptual apparatus such as uneven geographical development and production of space and accumulation by dispossession. In most, if not all cases, again inspired by Harvey and other Marxist urban theorists such as Lefebvre, various forms of oppression such as racial, ethnic, gender are understood and analyzed in terms of economic inequality, itself stemming from imperatives of capital accumulation and social and ideological structures shaping it.

The context of the inquiry is generally, but not exclusively, residential areas (housing and public spaces surrounding it), and it spans from gentrification, filtering, segregation, differentiation, displacement, and homelessness, to migration, marginalization, and even the prison system (Beitel 2016; Gilmore 2007; Harris and Lewis 2001; Hedin et al. 2012; Mitchell 1997; Smet 2016; Smith 1996b; Wyly et al. 2009). The aim of the next generation, therefore, was to extend the SMLR to analyze concrete urban processes of spatial change driven and shaped by general processes of capital accumulation and its need for the continual production of space as "Harvey provided limited empirical evidence, mostly at the aggregate national level" (Wyly et al. 2004, 630). Alternative urban strategies implied in their analyses include the right to the city, reclaiming public space, squatting and occupying space, community development, as well as urban riots (e.g., Cox 1982; Cox and Mair 1991; Cox and Wood 1997; Dikeç 2016; Dikeç and Swyngedouw 2017; Harvey 2008; Lauria 1984; Mitchell 2003; Smith 1996b).

The interest in the financialization thesis for urban geographic research escalated since the Great Recession and exposed, among other things, the bubble-prone nature of the financialization of built environments and its quintessential examples in the subprime mortgage crisis, various mortgage securitization processes, and extensive household debt (Aalbers 2008; 2009a; 2009b; 2012a; Aalbers and Christophers 2014; Charnock et al. 2014; Christophers 2010; 2014; 2016; 2019; 2020; Gotham 2006; 2009; Purcell et al. 2020; Tapp 2020; Teresa 2016; Weber 2002; 2010; Wyly et al. 2009; Wyly 2002; 2015). Harvey (2012a, xv) contends that this process is due to "overinvestment and speculative activity" by financiers. He (ibid.) elaborates, "current fiscal difficulties of the states (and proposed austerities) were derived from a global crisis of capitalism that arose out of the near collapse of a financial system that was caught in a tangled web of property market speculation that reflected malfunctioning processes of urbanization driven by the need to find outlets for overaccumulating capital" (also Harvey 2012b).

It is argued that such processes of financialization of land and built environments are governed by processes of creating and appropriating class-monopoly rents (Anderson 2014; 2019; Charnock et al. 2014; Smet 2016; Wyly and Hammel 1999; Wyly et al. 2009; Wyly et al. 2012). In both capital switching and rent gap models discussed below, monopoly rents play a decisive role. Smet (2016), for example,

contends uneven price development ensues from a shift in the dominant (spatial) accumulation strategy in late capitalism and is driven by dialectics of differential and monopoly rents and their financial basis. In another example, Charnock et al. (2014, 199) discuss "how attempts to manage the vicissitudes of capital accumulation through a variety of regulatory and institutional means—geared, for instance, to facilitating the increased liquidity of real estate in many parts of the world in the years preceding the current crisis—serve to fuel the process of crisis formation, and expose the contradictions of national and local state strategies" a process that is "driven by the rentier compulsions of state agencies, financiers and developers—all in the pursuit of profit-maximizing opportunities through the mobilization of land and property as a financial asset". And all of this is materialized via the rentier and speculative behavior of financiers and developers who set monopoly prices and extract monopoly rents, which in turn overinflate property prices (e.g., ibid. 201; 204).

Methodologically, two analytical contributions (as two 'auxiliary hypotheses') stand out for their innovative approaches to concretize the processes the SMLR explained at the conceptual level. First is the capital switching thesis, which aims to explain the long-term tendency of capital to move from the primary to the secondary circuits. Second is rent gap theory, which provides a method to measure rent creation and appropriation underpinning urbanization processes.

4.3.1.   The Capital Switching Thesis

Harvey (1978; 2006 [1982]; 1989) had conceptualized capital switching from the primary (productive) circuit to the secondary (built environments) circuit of capital in response to the overaccumulation of capital in the primary circuit, through which rent appropriation—as a barrier to the free movement of capital—was related to long-term structural tendencies of capital accumulation. His explanation, however, remained largely at the conceptual level. Although he provides a series of historical examples (from the 19th and 20th centuries) to support his thesis (Harvey 1989), he did not offer analytical tools, beyond time series of investment in the built environment or sale prices, for measuring or historicizing it. None of the indicators Harvey (1978, 106-111) suggested, including time series for investments in built environments and construction activity, directly points to an inter-sectoral switching, and the indicators discussed are not compared with the primary circuit patterns and activities.

The first critical examination of Harvey's capital switching thesis was presented by King (1989a; 1989b; 1989c). King (1989a) finds Harvey's formulation inadequate to use in his empirical study of Melbourne since the early 1970s. He argues Harvey's argument is "very generalised" as "the timing of the processes of investment and disinvestment . . . , their spatial scales, the interrelationships between them, or the social conditions that will accompany them" are not concretely presented (ibid. 451). King complements Harvey's framework with a socio-cultural

explanation, borrowed from Bourdieu and Habermas, for the rising rents and the resulting capital switching. He suggests Harvey's framework be taken as a context and then be disentangled for analyzing housing sub-markets (ibid. 456). But the crucial indicator for the rising rents, he (1989c, 879) says, is "attitudes and expectations" of both suppliers and consumers of housing.

Beauregard (1994, 718) criticizes Harvey for not documenting overaccumulation and not providing "direct evidence attesting to the switch of capital from the primary to the secondary circuit, . . . , [but only offering] indirect evidence on the countercyclical relation of production activity and construction investment that would indicate, or at least be consistent with, switching" (ibid. 719). As a concretized improvement to Harvey's framework and to analyze capital switching in the 1980s US construction boom, Beauregard suggests comparing "temporal patterns of private construction investment with various measures of nonconstruction investment activity" for built environments, machinery and equipment, and structures (ibid. 724). He concludes that the primary circuit of capital grew less rapidly than the secondary in that period, to no small extent due to mediation of finance capital, pointing cautiously to a capital switching similar to what Harvey had conceptualized (ibid. 729; also Beauregard 1991).

More recent studies have elaborated on these two conceptual and empirical approaches. Beitel (2016, 31) advances an empirical approach to measure rents and capital switching. He (ibid.) defines ground rent as "the portion of the total rent payment on existing buildings that represents a payment for the right to occupy a given site or plot of land". He argues that urban land rent is derived from "the site's location" (ibid.). Rent is different from land price, which is "the price paid to acquire rights to use and build upon, or modify existing structures on, a given site" (ibid.). Land price is a component of the building's production costs and is paid at the time of acquisition (ibid.). Rent, however, is "an income flow derived from ownership of a rent-bearing property over a longer time horizon" (ibid.). Beitel maintains that rent cannot be "directly measured" as rent is "a theoretical category that captures the processes that determine the modulation of the ground rent surface and formation of surplus profits within a segmented system of residential housing" (ibid. 35). However, rent is reflected in "some mixture of increased land prices and developer's surplus profit realized over and above the profit that would accrue to a capital of equivalent magnitude invested at the average rate of profit" (ibid.). The property circuit responds to the fluctuations of total housing prices as a sum of "developer's surplus profit and rising land price, and the locational component of ground rent" (ibid. 39). Therefore, high rents and surplus profits render "the advanced metropoles . . . magnets that function to attract massive sums of investment-seeking surpluses circulating through the global banking and financial circuits, a significant share of which is absorbed by property investments" (ibid. 41).

Smet (2016, 497-498) understands rent as "a monetary transfer" between investors and owners. This monetary definition implies, by paying rent, the investor also acquires the right to "future revenues" of land use, which constitutes "the

financial basis of rent" (ibid. 498). Since rent is a component of housing price, housing prices are to be analyzed in terms of an interaction between the circulation of capital and the circulation of revenues (ibid.). In other words, housing construction is to be analyzed as an interaction between productive capital accumulation and fictitious capital accumulation (ibid. 499). "The restructuring of city economies" since the 1973 crisis is analyzed in terms of "declining profitability and increasing international competition" that translates into a shift in employment from the manufacturing to the service sector (ibid. 503-505). This structural shift was assisted by "the liberalization of financial markets" and "the emergence of secondary capital markets" (ibid. 504). The shift means the rise of bubble-prone speculative investments in housing markets is rooted in rent appropriation processes that "became detached from the surplus-value created in these cities and could tap into the money flows of places of consumption and services, which were embedded in global capital and revenue circulations" (ibid.).

4.3.2. Rent Gap Theory

The rent gap hypothesis was first introduced by Neil Smith (1979) as an economic mechanism underlying gentrification. The idea was to provide an objective explanation for the pressing question of why and when gentrification happens while also analyzing the impacts of gentrification as social, economic, and physical change (Smith 1987, 463). It also aims to explain the relationship between land and property values (Smith 1979, 542). The hypothesis entails that in "a well-developed capitalist economy", financial institutions providing the outlay are necessary for the commodification of land and improvements built on it (ibid. 541). The value of the built environment "influences" the land rent, and "since land and buildings on it are inseparable", the building sale prices reflect the level of land rent (ibid.). Unlike the land, the built environment is subject to physical deterioration. Therefore, "patterns of capital depreciation will be an important variable in determining whether and to what extent a building's sale price reflects the ground rent level" (ibid.). "A theory of gentrification will need to explain the detailed historical mechanisms of capital depreciation in the inner city and the precise way in which this depreciation produces the possibility of profitable reinvestment" (ibid. 542).

"In a capitalist economy, profit is the gauge of success, and competition is the mechanism by which success or failure is translated into growth or collapse . . . This search for increased profits translates, at the scale of the whole economy, into the long-run economic growth" (ibid. 541). Capital tends to flow onto built environments in search of higher returns "when economic growth is hindered elsewhere in the industrial sector . . . as is particularly apparent with this century's suburbanization experience" (ibid. 541). This "spatial expansion", i.e., capital switching, secures "the continual need for capital accumulation" (ibid.). This is a double-sided process as the investment in built environments is at the same time "a vehicle for capital accumulation" and "a barrier to further accumulation" (ibid.).

The reason is that investment in built environments is characterized by "near-monopoly control of space, the fixity of investments, the long turnover period" (ibid.). Smith (ibid.) elaborates,

> Near-monopoly control of space by landowners may prevent the sale of land for development; the fixity of investments forces new development to take place at other, often less advantageous, locations, and prevents redevelopment from occurring until invested capital has lived out its economic life; the long turnover period of capital invested in the built environment can discourage investment as long as other sectors of the economy with shorter turnover periods remain profitable.

Smith disentangles two categories of property value and land value into four categories of "house value, sale price, capitalized ground rent, potential ground rent" of which "[c]apitalized ground rent is the actual quantity of ground rent that is appropriated by the landowner, given the present land use" whereas "[p]otential ground rent is the amount that could be capitalized under the land's 'highest and best use'" (ibid. 542). He (ibid. 545) defines the rent gap as "the disparity between the potential ground rent level and the actual ground rent capitalized under the present land use" mainly in response to the depreciation of building value over time in (market) price terms. The gentrification process (which includes investment in the physical environment), therefore, is assumed to be 'potentially' started "[o]nce the rent gap is wide enough" (ibid.). Prior to that point, the opposite process of disinvestment and abandonment of the physical environment occurs. This way, Smith a) articulates an economic mechanism missing in demand-side explanations of urbanization that turned their focus to cultural and individual consumer preferences (e.g., Ley 1987), and b) operationalizes Harvey's model of uneven geographical development for concrete housing research. And in a crucial reference to the SMLR's capital switching thesis, Clark argues that "[f]undamental to the rent gap is the condition that investments in the built environment involve a spatial 'fix'" (Clark 2004, 152). Interestingly, Clark and Pissin (2020) also find Harvey's concepts of rentier class and landed developer interest particularly crucial to analyzing potential rents.

This hypothesis initiated a debate around the relevance of rent gap theory to gentrification theory and, more broadly, capitalist urbanization processes (Bourassa 1993; Clark 1995b; Hammel 1998; Ley 1987; Smith 1987; Smith 1996a). The debate helped consolidate the rent gap as a mechanism underlying urbanization processes that is, at the same time, conducive to empirical analyses of housing markets. Rent gap theory, therefore, inspired many urban geographers to relate urbanization processes to the political economy of space and, by extension, to general processes of capital accumulation, all inspired by the SMLR (Clark 1988; 1992; 1995b; Clark and Gullberg 1991; Diappi and Bolchi 2008; Hammel 1999; Hedin et al. 2012; Porter 2010; Slater 2017; Wachsmuth and Weisler 2018; Yrigoy 2019). Rent gap theory complements the SMLR by offering an analytical mechanism to measure rent creation and appropriation. However, it deviates from

some structural hypotheses of the SMLR in operationalizing land rent regardless of type (absolute, differential, class-monopoly), and relies on (market) sale prices, adjusted by taxed values of land and building to measure the level of rent (Clark 1987; Clark and Gullberg 1997).

One crucial anomaly that was put forth against Smith's formulation of rent gap challenged the theory's identified preconditions of rent gaps, as developed capitalist urban land relations and a developed finance capital active in land markets (Darling 2005). The focus of inquiry has recently begun to shift from advanced capitalist cities to global capitalist cities, where finance capital may not be highly developed, or urban land relations may not be advanced (Slater 2017). Nevertheless, gaps exist, and their existence could trigger the gentrification process. The rent gap is explained as an economic mechanism of investment in land and pinpoints the social impacts of such investments, including displacement and dispossession. An enormous body of empirical evidence from across the globe is provided to support the existence of rent gaps. Studies from India (Maringanti and Jonnalagadda 2015; Whitehead and More 2007), to South America (Borsdorf and Hidalgo 2013; López-Morales 2010; 2011; 2013; 2016a; 2016b; López-Morales et al. 2019), to the Middle East (Balta and Eke 2011; Krijnen 2018a; 2018b) have been presented to this aim.

Moreover, Smith had theorized how price-magnitudes of rent (whose character he did not specify) increase over time and how this potentiality contributes to attracting investment onto land. In the early 1990s, Bourassa (1993) criticized Smith's articulation of capitalized ground rent as a price component of rent. Bourassa (ibid. 1731) problematized the concepts of actual (or capitalized) and potential land rents as Smith allegedly conflated land rent and land values (ibid. 1733). Bourassa (ibid.) distinguishes an accounting sense of rent (immediate rent payments) from an economic sense of rent (land rent). He argues, "[t]he concept of rent that is relevant to changes in land use is land rent as an opportunity cost, which is a function of the potential use of a site rather than its actual or current use" (ibid. 1732). And he contends that Smith's theory could benefit from incorporating an analysis of differential rent.

Clark (1995b) responded to Bourassa's critique and argued for the relevance of rent gap theory as an economic and not an accounting theory. He (ibid.) contends that Bourassa's microeconomic model "is based on an empiricist fallacy of equating an abstract concept with a naïvely observable event", disabling it from acknowledging the importance of the gap for the time before redevelopment (ibid. 1490). Furthermore, concerned with patterns of capital flows onto land, Clark complements rent gap theory with Harvey's interpretation of the (spatial) interplay between differential rent I and II in an empirical study in Malmö, Sweden (Clark 2004, 150). The interplay between two types of differential rent hinges on "the distinction between 'normal' capital investment in 'equal' sites and above-normal investment of capital" (ibid. 155). Rent gap theory, on the other hand, is based on "the distinction between capital investment appropriate for a site's 'highest and best

use' and historically dated investment which have become below-normal investment for 'equal' sites" (ibid.).

Rent gap theory helps explain economic mechanisms of spatial change at the micro-level, which, as Clark's studies show, could be complemented by introducing the interplay between differential rent I and II. But it also needs to explain structural preconditions of the rent level (when $t = 0$ and at different points in time), and that is what further elaborations using the financialization thesis and the category of class-monopoly rent offer to the analysis. Highlighting the processes of the financialization of land, Wyly and Hammel operationalized rent gap theory to explain the "rapid acceleration of reinvestment in fringe areas" (Wyly and Hammel 1999, 738). In inner cities, they argue, "[c]apital began to fill the vacuum left behind by a wave of disinvestment that rippled outward from the urban core as metropolitan expansion boosted potential land rents far above the levels capitalized through prevailing local land uses" (ibid.). Wyly and Hammel draw attention to the historical role of "the spatial allocation of mortgage credit" in creating rent gaps, and argue "[b]iased lending practices, often explicitly rooted in ecological theories of neighborhood change, as well as blatant racial and ethnic discrimination, were instrumental in prompting disinvestment and selective outmigration from older residential districts near the urban core" (ibid.).

But there is a temporal discrepancy in the timing of different financial instruments' impact on creating rent gaps. Wyly and Hammel (ibid. 755-756) further clarify, "[w]hile mortgage capital flows may have been responsible for disinvestment and the creation of rent gaps in an earlier generation (and may still be doing so in other inner-city neighborhoods), in the boom of the late 1990s, lending now appears to be leading the reinvestment process in the established outposts of gentrification". Wyly and Hammel further complement rent gap theory with the concept of class-monopoly rent to explain the relationship between rents and the rest of the urban economy (ibid.).

4.4. Final Remarks on an Unresolved Debate and an Incomplete Project

Urban geographers, following Harvey and inspired by his SMLR, have developed innovative methodological strategies (as 'problem-solving within the research program') to study rent and its relation to urbanization processes. Two of these strategies stand out. First is the capital switching thesis that explains the long-term tendency of capital to flow onto the land. And second is rent gap theory that provides methods to measure rent creation and appropriation. As crucial as they are to the evolution of the SMLR as a systematic model for analyzing rent relations and capitalist urbanization processes, these attempts remain inadequate as they fail to complement the SMLR to explain economic urbanization processes structurally.

Their problem-solving strategies, except for a few cases, are generally limited to creating protective belts such as innovative conceptualizations to explain social consequences of urbanization processes, further elaborations of the role of finance capital in built environments, empirical operationalizations of the SMLR for more cases across the globe and particularly in the global South, and elaborations of monopolistic land relations shaping the geographies of rent creation and appropriation in specific studies. These studies complement the SMLR as they relate rent to other social and political structures of capital accumulation. However, these applications have not resolved theory-data anomalies discussed earlier. These theory-data anomalies are lack of analytical tools to measure and explain rent rates, ceilings, and magnitudes, lack of a dialectical analysis of macro and micro dynamics of rent creation and appropriation, lack of a historically contingent analysis of the movement of capital across sectors, lack of a consistently structural explanation of economic urbanization processes. Their inadequate response to the anomalies is indicated by a) the shift to microeconomic measurements (using market prices of plots and buildings to determine the level of rent) and exogenous monopolistic power relations (referring to the power of landlord class to determine the level of rent), in the case of rent gap, and b) the shift to the mediation of financial and institutional relations, in the case of the capital switching thesis. More importantly, the inadequate response (limited to theoretical and conceptual clarifications) to the crucial anomaly raised by the institutionalists in the 1980s about the empirical impotence of the SMLR as a political-economic model to explain economic relations over urban land renders the debate unresolved and the project incomplete. Part II reports on empirical comparisons of the SMLR and the TILR based on these anomalies in three empirical studies.

PART II.
Empirical Comparisons of the Two Models (SMLR and TILR)

Chapter 5. Literature Analysis

The literature survey of studies on land rent is presented as a bibliography of rent in Appendix 2[10]. The bibliography encompasses 250 sources from 1970 to 2021 (Figure 5.1), and the bibliometric analysis aims to periodize rent applications by urban economists and geographers. The results include predominantly journal articles (with 212 pieces) but also books (17 volumes) and book chapters (12 pieces). Keywords used are ground rent, land rent, as well as rent categories, including differential rent I and II, absolute rent, monopoly rent, and class-monopoly rent. The central database used is Google Scholar. The study is limited to sources published in English, though it includes classic literature translated to English from other languages published in English-dominant outlets.
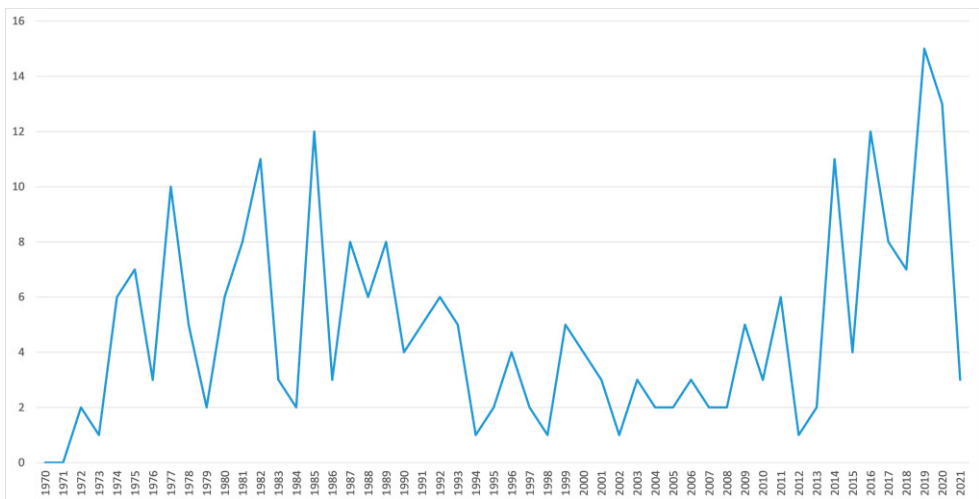
Figure 5.1 Studies on Land Rent, Frequency –All Literature, All Approaches

The publications pertaining to the study are selected according to their theoretical and empirical operationalizations of neoclassical, Ricardian, institutionalist, Marxian, Harveyan (and other heterodox) rent theories. For that reason, the research on rent as tenants' payment (i.e., housing rent), rent cap, rent control, bid rent, office rent, taxing rent, and the like are excluded; but theoretical engagements with land

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[10] The bibliography was last updated on April 19, 2021.

rent are considered and included. The dominant field is urban economic research and relevant urban applications of rent theory, with a handful of (non-urban) exceptions whose primary objectives are theoretical elucidations rather than empirical elaborations. The list also includes seminal neoclassical studies of the pre-Harveyan era. The notable omission is the rent gap literature. That is because, except for a handful of studies (which are included), rent gap literature does not explicitly engage with Ricardian, Marxian, Harveyan theories of land rent and methodological challenges of operationalizing them.

This study is not aimed to be exhaustive (i.e., to include every single article ever published on rent), and it certainly has its limitations. Nevertheless, it demonstrates patterns consistent with similar existing studies that periodize rent literature. Three peaks of the mid-1970s, the mid-1980s, and the mid-2010s are evident in the results (Figure 5.1). A hiatus from the early 1990s until the Great Recession follows the second peak. The results accord with earlier periodizations by Haila (1990) and later on by Kerr (1996), Park (2014), and Ward and Aalbers (2017) (see Chapter 4).

Of the 250 sources in the list, geographers account for 150, economists for 93, and the remaining seven studies are within the broad spectrum of environmental/ecological economics, six of which are from the last 15 years (Figure 5.2).
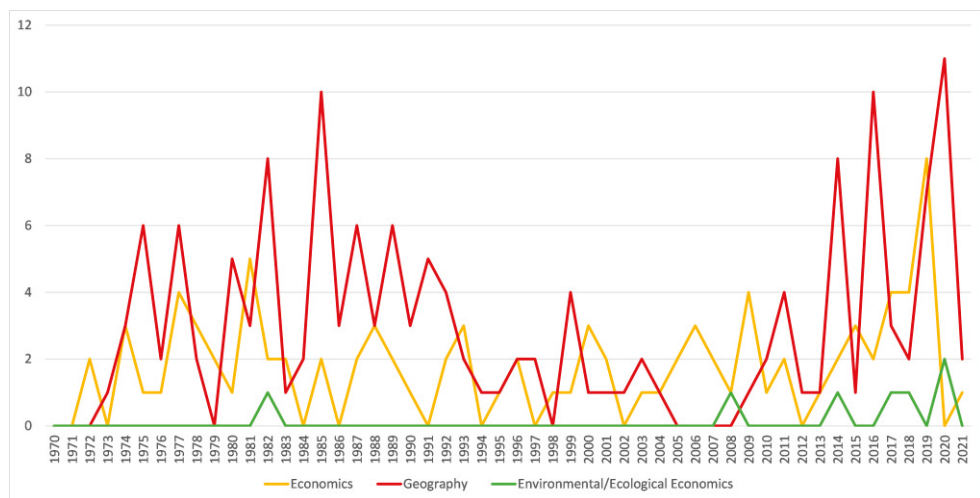
Figure 5.2 Studies on Land Rent, by Field of Study

The predominant approach is heterodox (in a broad sense of the term) with 180 studies; the neoclassical approach accounts for 44 studies, while the other 26 studies use the institutionalist approach (Figure 5.3). The results also confirm the earlier proposition that the institutionalists' interest in rent research fades away as they approach the end of the last century. In contrast, neoclassical studies show a somewhat consistent pattern.
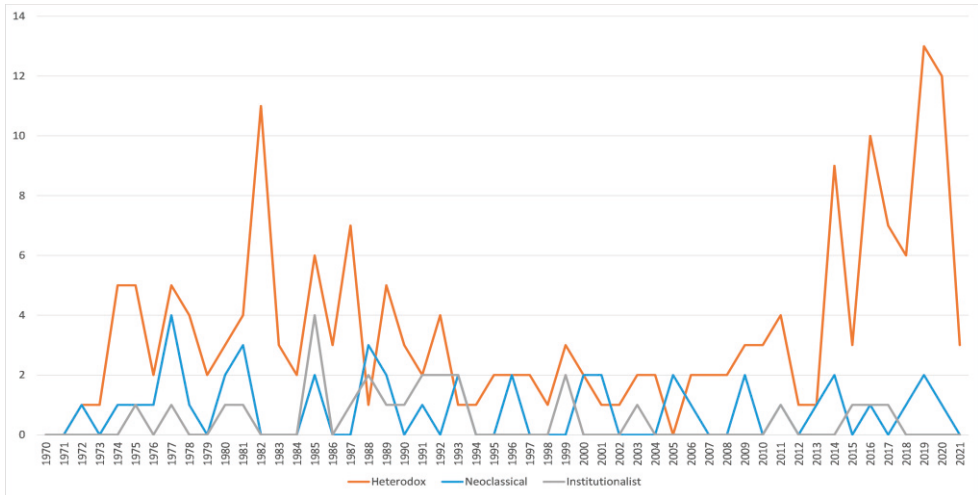
Figure 5.3 Studies on Land Rent, by Approach

Within (economic) geography, 106 studies use heterodox approaches, 26 studies fall in the institutionalist category, and 18 are neoclassical (Figure 5.4). That shows that heterodox geographers dominate the entire research on land rent since 1970. They have been the driving force, too, as their interest in the field dictates the general trend.
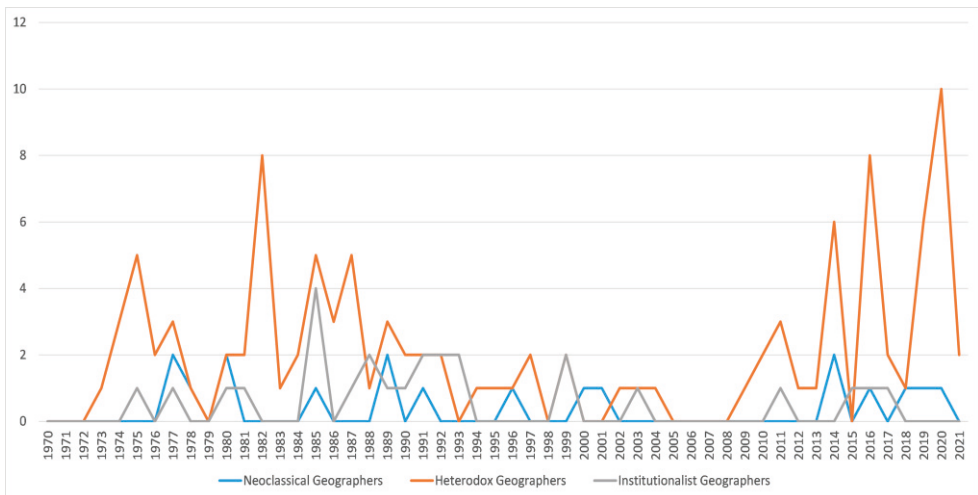

Figure 5.4 Studies on Land Rent in Geography, by Approach

In economics, in contrast, heterodox approaches account for 67, and neoclassical economics for 26 (Figure 5.5). Moreover, the interest in rent research in heterodox

approaches in geography and economics increases dramatically following the Great Recession.
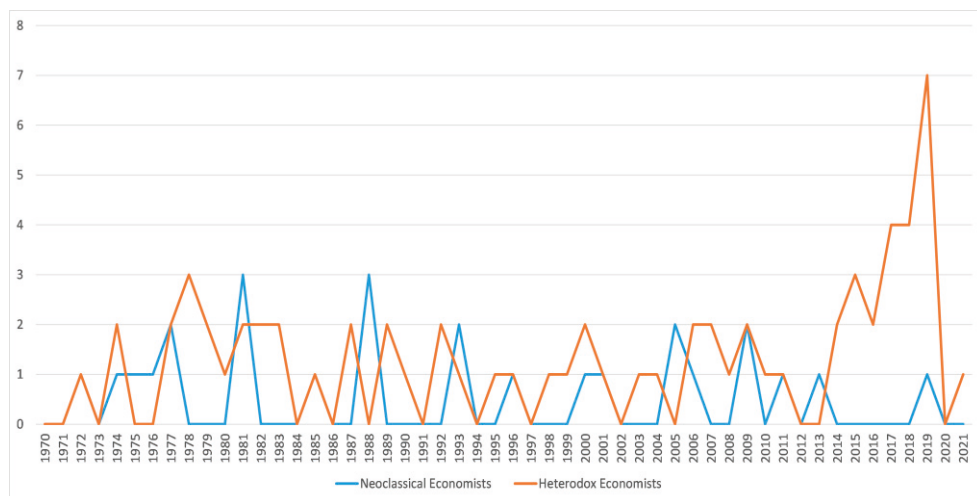
Figure 5.5 Studies on Land Rent in Economics, by Approach
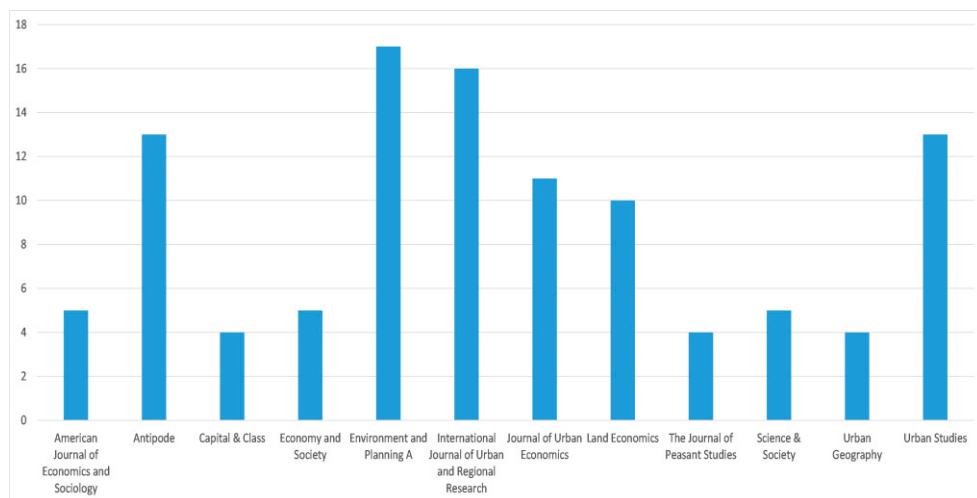
Figure 5.6 Studies on Land Rent in the Top 12 Journals

The top 12 journals where rent at least appears four times since 1970, showing a relatively recurrent interest, are presented in Figure 5.6. The reason is that if rent is only studied once or twice over five decades, its occurrence in the journal could be arbitrary. Figure 5.7 shows historical trends of rent studies in the top 12 journals since 1970. Antipode, IJURR, Urban Studies, Science & Society demonstrate a more consistent interest in land rent research. Environment and Planning A, Land

Economics, Capital & Class seem to have lost their interest since the 1990s. Antipode, IJURR, and Economy and Society lead the rest during the first period and the debate over theoretical foundations. Environment and Planning A, Land Economics, Capital & Class, and IJURR and Urban Studies are prominent during the second period and the debate over the applicability of rent theory in geographic research. Antipode, IJURR, Science & Society, Urban Studies lead in the third and methodological elaborations of the SMLR.
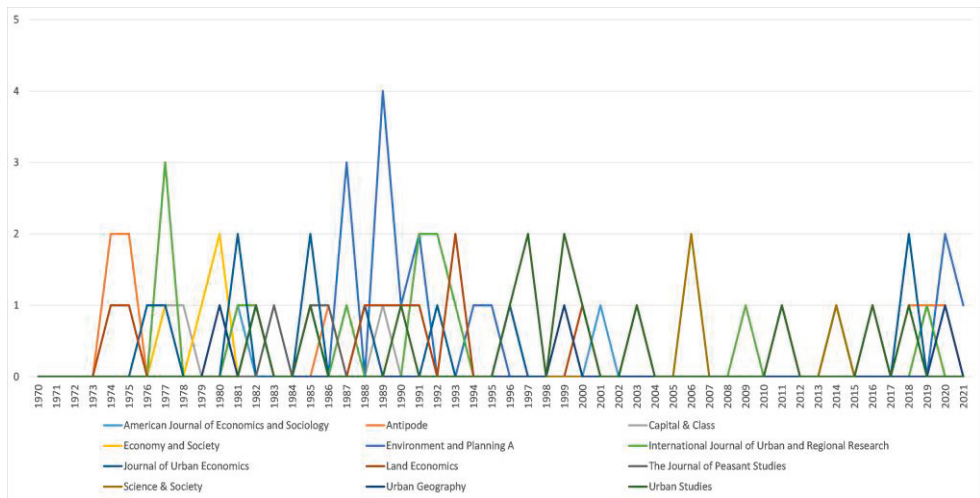
Figure 5.7 Studies on Land Rent in the Top 12 Journals (Time Series)

The bibliometric study shows that the most operationalized concept of land rent using the SMLR is class-monopoly rent. Absolute rent is generally absent in studies using the SMLR for urban research. However, it is not refuted on an empirical basis. Most studies on absolute rent using the model are conceptual and do not offer operationalization for empirical analysis, as Park (2014) also observed. Besides, no single case represents 'the most researched,' i.e., a crucial case for the urban land rent research using the SMLR. The most explicitly empirical study of absolute rent is Harvey and Chatterjee's (1974), in which they studied rents in Baltimore. A limited number of empirical studies on absolute rent is indicative. The survey also shows an interdisciplinary character of research on rent led by urban economic geographers.

The crucial (theory-data) anomalies I identified in the SMLR include a) inadequate analytical tools for measuring and explaining (excess) rates of return, thereby rent rates, ceilings, and magnitudes, that are also required for a contextualized explanation of capital switching, b) an inadequate macro-level mechanism for rent creation and appropriation, c) an inadequate explanation for the historical contingency of rent creation and appropriation at both macro and micro

levels, d) a lack of a consistently endogenous structural model for rent creation and appropriation.

The following three chapters compare the two competing models (SMLR and TILR) in three empirical studies concerning these anomalies. The aim is to evaluate, in a Lakatosian sense, whether the TILR explains everything the SMLR successfully explains, explains the SMLR's 'known anomalies', and it has 'excess empirical content' over the SMLR, "that is, it predicts *novel* facts, that is, facts improbable in the light of, or even forbidden" by the SMLR (Lakatos 1978, 32, emphasis in original).

Chapter 6. Empirical Study 1: History, Inter-Sectoral Profitability, and US Cities

This chapter evaluates Harvey's two seminal empirical articles (1974 with Chatterjee; 1974a) on which he based his model of rent (SMLR) and influenced many of his proponents and critics alike[11]. The same database he used in these two seminal papers in 1974 predicates Harvey's entire argument and formulation for both absolute rent and class-monopoly rent. The theory-data anomalies discussed are a) analytical tools to measure and explain rent rates, ceilings, magnitudes, and capital switching at the macro-level and b) the historical contingency of rent creation and appropriation. The two models are counterposed according to their ability to deal with these anomalies.

   For the sake of argument, and following Lakatos, I begin with the hypothesis that Harvey's data (1974 with Chatterjee; 1974a) represents land rents and that land rents had been rising in the period of his two studies (i.e., the early 1970s). This data is then contrasted with national and inter-sectoral measures for rates of return (as competing analytical tools to measure the rate, ceiling, and magnitude of rent) as anticipated in the TILR. The complementary data provided here indicate historical and inter-sectoral dynamics shaping and creating land rents. The aim, therefore, is to historically contextualize and economically concretize Harvey's treatment of land rents at the conceptual level using the TILR.

6.1.   Harvey, Absolute Rent, Class-Monopoly Rent

Let me begin with a review of the methodological strategy deployed in the two studies and then examine Harvey's SMLR's analytical tools for measuring the

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[11] Harvey and Chatterjee (1974) is cited 214 times and Harvey (1974a) 456 times, according to Google Scholar (last checked June 2, 2021). These numbers are significant for urban rent research. In comparison, Ball (1985) is cited 133, Ball (1977) 136, and Haila (1990) 108 times. Obviously, Harvey's more general theoretical works are cited significantly more often, the best example of which is Harvey (2006 [1982]) that is cited 10,851 times. But that is beside the point here.

source of rent and capital switching. Harvey and Chatterjee's (1974, 22) solution to a central scalar problem in urban economics, i.e., to link aggregate, national patterns to local, micro-foundations, is an examination of "the structure of governmental and financial institutions". They identify three crucial challenges for housing studies at the national level, including the relationship between construction and economic growth, the problem of capital switching, and the problem of housing provision and welfare. They identify land rent as the driver of all three processes (ibid. 22-23).

Elaborating their analysis of the scalar problem, Harvey and Chatterjee write, "[a]t the national level, then, policies are designed to maintain an existing structure of society intact in its basic configurations, while facilitating economic growth and capitalist accumulation, eliminating cyclical influences, and defusing social discontent" (ibid. 23). At the local level, they contend, the interaction between financial and governmental institutions indicates that "policies are filtered and transmitted to the local level" (ibid.). In other words, the conflict is found in the control over funds for homeownership (via loans and mortgages), which itself is regulated by federal fiscal and monetary policies. Finally, at the individual level, "the ability to obtain credit and a mortgage", especially "under suitable terms", determines housing choices (ibid.). This ability, they elaborate, is "a function of the policies of financial and governmental institutions" as private financial institutions "prefer to finance the more expensive housing," leaving less expensive (and more costly) dwellings for federal and state financial institutions (ibid. 24). Interestingly, the latter is also prone to "neighborhood biases", which is standard procedure for private institutions (ibid.).

They divide Baltimore City's housing market into 13 sub-markets to demonstrate geographies of the above-mentioned institutional service preference (private versus state/community-based) in relation to "housing prices and socio-economic composition" (ibid. 25). They assert, "[t]his geographical structure forms a 'decision environment' in the context of which individual households make housing choices" (ibid.). And, the geographical structure itself is attributed to inherited patterns of social differentiation in terms of income and race, while at the same time, it is assumed to provide preconditions for the realization of absolute rent in terms of excess monopoly returns (ibid.).

As for landowners, Harvey and Chatterjee (ibid. 30) primarily focus on "professional landlords who own and manage about a quarter of Baltimore City's rental inventory". Based on interviews they conducted with four landlords, Harvey and Chatterjee (ibid. 31-32) conclude that landlords make their decisions (investment preference) rationally according to "the availability or non-availability of landlord finance". They calculate the rate of return for rental properties in terms of direct, annually paid housing rent (ibid. 32). Based on the interviews, they report that "[p]rofessional landlords in Baltimore, in fact, look for a 20 percent rate of return on their capital, regard 15 percent as 'normal' and will stay in operation at 11-12 percent (this is after all expenses are met including interest payments and an imputed managerial wage to the landlord as manager)" (ibid.). Harvey and

Chatterjee provide no further evidence or argument as to why these numbers (as monopoly prices) stand, nor do they explain how macro-level (aggregate) interest rates might have shaped these numbers. They seem to be trusting their interviewees on this assessment.

Nevertheless, they argue that these are regulating numbers across the city. Therefore, especially in areas with less expensive housing, an average tenant must pay more rent (compared to the property's market value). The "decision environment" in which landlords make their housing choices, therefore, is shaped and governed by selective and somewhat arbitrary practices of financial institutions (both private and public) offering mortgages (ibid.).

For Harvey and Chatterjee, absolute rent is construed in terms of a class monopoly over housing markets, and it is realized in the presence of "absolute limits of some sort operating over different segments of the housing market" (ibid. 33). Geographical and structural patterns of differentiation shape these absolute limits.

They (ibid.) present a hypothetical situation "in which a sub-market is completely isolated from all other sub-markets so that consumers and providers of housing are all locked into a specific situation". They add two more conditions to this hypothetical case: a) that the area under question is "an inner city sub-market where low-income tenants cannot possibly find alternative accommodation and from which landlords cannot possibly extract themselves", and b) that "financial institutions and government intervention play no role" (ibid.). They conclude that "in such a sub-market, *rent levels* will be set by *the relative power of the landlord* over the tenant" (ibid. my emphasis). By adding complexity to the situation, they contend that the power play between the landlord and the tenant corresponds to the extent of intervention by financial institutions. The rising power of the tenant contributes to lower rates of return (below 12 percent) for the landlord whose power is shaped and restricted by the financial, institutional practices financing housing markets, and subsequently, to the landlord's withdrawal of the sub-market (abandonment and so on), provided the rising power of the tenant is not supported by state regulation, for instance, in the form of "rent control legislation" (ibid.)[12].

In a subsequent article, using the same set of data, Harvey (1974a) elaborates (and deviates from) some of the main theoretical contributions of his article with Chatterjee. In the first article, Harvey and Chatterjee wrote, "[r]ent is not, afterall, inherent in production but arises only because the legal institution of private property is a necessary feature in the capitalist mode of production and because it proves difficult or impossible to restrict that legal right to production solely" (Harvey and Chatterjee 1974, 34). In the second article, Harvey keeps all presumptions concerning the nature of rent, its creation, and appropriation but conceptualizes its character as class-monopoly rent.

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[12] Harvey (1975) later conceptualized his elaboration of the Marxian class analysis for urban and housing research with this hypothetical case of the conflict of interests.

For Harvey (1974a), rent is indicated by transfer payments on the use of built environments. He defines rent as "a transfer payment realized through the monopoly power over land and resources conferred by the institution of private property" (ibid. 240). His objective in the analysis is to explain "social consequences" of rent "as an actual payment to people" (ibid.). The first variable for rent's existence is the "scarcity" of urban land (ibid.). "If rent is a transfer payment to a scarce factor of production, then the urbanization process has also multiplied the opportunities for realizing rent" (ibid.). The next variable in this equation is the generally long turnover period of housing as a commodity.

He measures rent in terms of (monopolistic) excess rates of return and writes, "[i]f rates [of] return are high in the real estate and property markets, then investment will shift from the primary productive circuit of capital to this secondary circuit in a manner that would be consistent with Lefebvre's thesis" (ibid. 241). He is, however, quick to add, "[w]hat has to be explained, however, is how returns can be higher on the secondary circuit over any length of time" (ibid.). He does not show how different rates of returns are calculated and what economic mechanisms are involved in this potential capital switching. Furthermore, preconditions of capital switching are merely presented and analyzed spatially and not historically.

Key variables presented in both articles include spatial scarcity and monopolistic power relations, and the level of rent depends on the power of the landlord class to impose monopoly prices. In both articles, monopoly relations observed at the local (micro) level are generalized to national (macro) level patterns of capital mobility across the economy. Macro patterns, however, are divorced from fluctuations of rent at the local level. Another problem is that although rent relations are related to economic relations in both articles, the analysis is confined to sources of financing housing and not housing production.

King (1989a) criticizes Harvey for invariant and static causal mechanisms he listed to explain how economic relations at the national level influence spatial and social relations at the local level (also Anderson 2014). In the end, however, King questions the impact of macro-level economic relations altogether and calls Harvey's approach "economically determinist" (also King 1987; 1989b, 712). Beauregard's (1994) critique of Harvey's capital switching thesis is more analytically interesting as he endeavors to a) analyze production processes in the construction sector, and b) historicize Harvey's analysis. However, Beauregard fails to explain fluctuations of investment in the construction sector in terms of rates of return and confines his analysis to the investment magnitudes.

6.2. The TILR and Measuring Aggregate and Sectoral Rates of Return

The TILR measures land rents in terms of national rates of return. Figure 6.1[13] displays a common mainstream indicator for corporate profits, namely, corporate profits before tax.
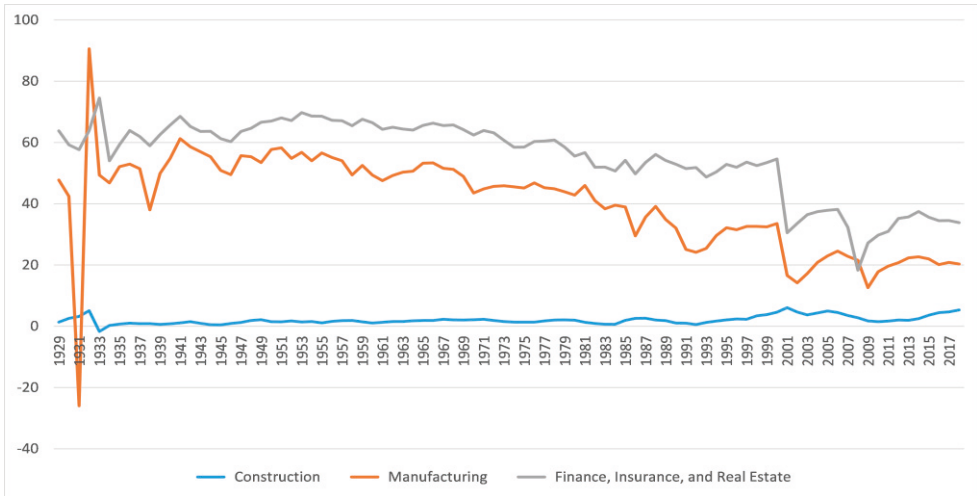

Figure 6.1 US - Corporate Profits before Tax by Industry–Share %

Even within its limited scope, the competitive dynamics between the manufacturing, construction, and finance sectors are discernible. More importantly, as the figure shows, the observed patterns are subject to constant fluctuations. The FIRE sector's corporate profits follow the manufacturing sector's trend, while new constructions counter it. A closer comparison reveals that the L shape long and slow recovery after 1969's recession in the manufacturing sector is mirrored by a rise in the construction sector. Whereas the recovery of 1975 is mirrored in a fall in the construction. That the share of the total for the construction sector is still lower than the manufacturing sector indicates the centrality of the latter in the inter-sectoral competition. And, as Figures 6.2 and 6.3 show, investment patterns in structures for the manufacturing and the residential sector are counter-cyclical. All of this indicates a correlation that the SMLR fails to consider.

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[13] I used official data (e.g., BEA) for all figures in this chapter, mainly with my calculations. To avoid repetition, I present the detailed description of the sources (with tables, lines, etc.) in Appendix 3.1.
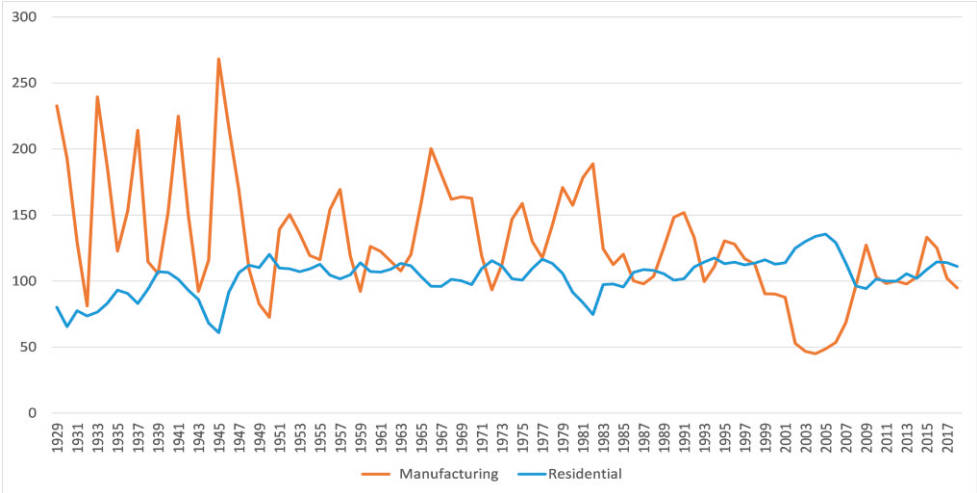
Figure 6.2 US - Real Private Fixed Investment in Structures by Type, Quantity Indexes–Share %
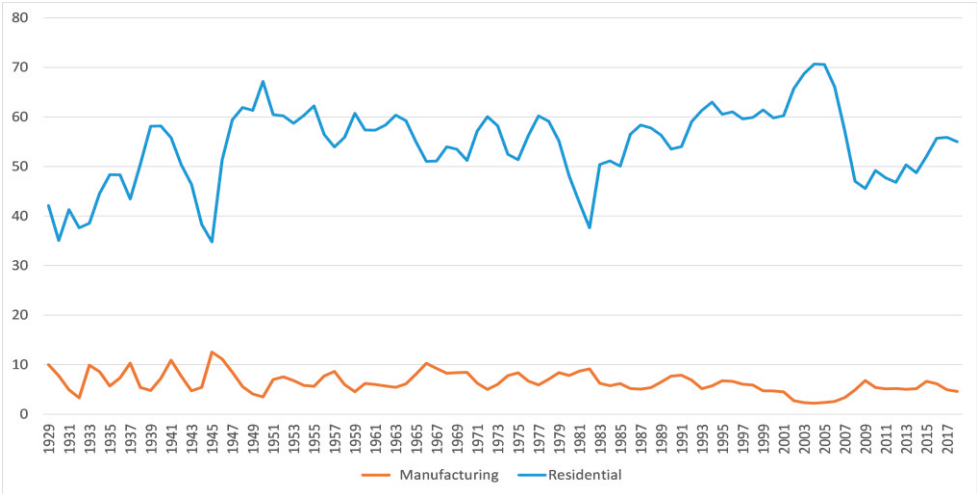
Figure 6.3 US - Private Fixed Investment in Structures by Type–Share %

The TILR method for calculating and analyzing rates of return is fundamentally different from these mainstream methods. Here I compare three leading approaches for calculating and analyzing rates of return by Kliman, Roberts, and Shaikh. This comparison is crucial as it shows the complexity of measuring profit rates, and that they can be measured regardless of slight methodological differences (Shaikh and Tonak 1994). Nevertheless, the major challenge of relating national (capital-as-such) levels to local levels remains. I will come back to this in Section 6.4 below.

Kliman (2015) calculates the US rate of profit as net profits divided by the net stock of fixed assets. He reckons what he calls property income to be the most

"inclusive" indicator for profits, calculated as "gross value added minus depreciation and compensation of employees" (ibid. 246; also 2012, 75-76). A less inclusive indicator is net operating surplus, calculated as property income minus "net indirect business taxes (sales tax, etc.)" (Kliman 2015, 246). Kliman (ibid.) calculates "corporations' profits as a percentage of their accumulated investment in (or 'net stock of') fixed assets". Therefore, the net stock of private fixed assets indicates total constant capital. And "[b]oth profit and accumulated investment are measured net of depreciation as valued at historical cost" (ibid.).

I have replicated Kliman's calculation for both property income and net operating surplus for corporate and private sector profit rates (Figures 6.4 and 6.5). The United States National Income and Product Accounts (NIPA) defines net operating surplus as a sum of proprietors' income, rental income, corporate profits, net interests, and net business current transfer payments, all with capital consumption adjustment. Kliman's property income is defined as net operating surplus plus taxes on production and imports. Therefore, the rate of profit is defined as profit (property income or net operating surplus) divided by net stock of private fixed capital valued at historical cost. The result shows similar patterns.
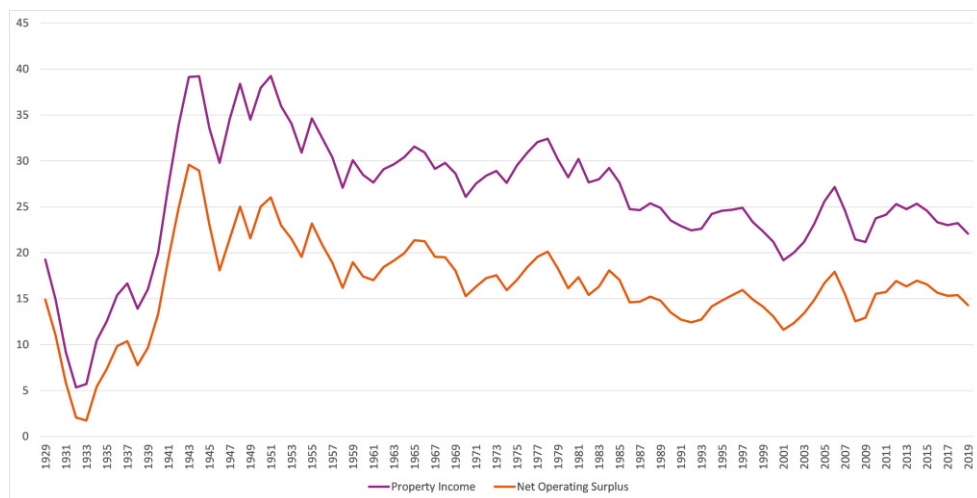
Figure 6.4 US - Corporate Rate of Profit (%) (Kliman-Inspired)
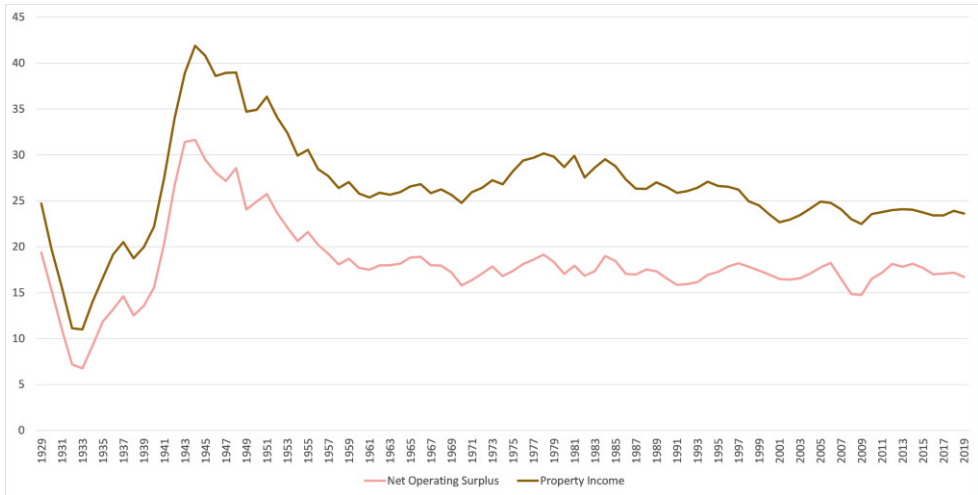
Figure 6.5 US - Aggregate Rate of Profit–Private Sector (Kliman-Inspired)

Kliman (ibid. 249-250) criticizes measuring the rate of profit "as a percentage of the replacement cost (or current cost) of fixed assets, the amount of money that would currently be needed to replace them". He elaborates, "[w]hen the rate of inflation rises (falls), the amount of money that would be needed to replace all of the fixed assets in use rises (falls) relative to the amount of money that was actually invested to acquire them in the past, and the replacement-cost rate of profit therefore falls (rises) in relation to the rate of profit based on actual accumulated investment" (ibid.). That leads him to argue, "the acceleration of inflation during the 1970s depressed the replacement-cost rate and the deceleration of inflation during the 1980s boosted it, and this—not the putative economic success of neoliberalism—is the source of the difference in the trajectories of the two rates of profit" (ibid.).

In Figure 6.6, I have updated his equation for sectoral profit rates. As the figure shows, the period when Harvey had made his observations in Baltimore (roughly 1970 to 1974) is a period of a fall in the manufacturing sector's profit rates, while overall, the construction sector's profit rates have begun to rise. The data, however, does not point to any causation, I should emphasize. Nevertheless, it provides a clear indication of the historical context upon which Harvey's analysis was made.
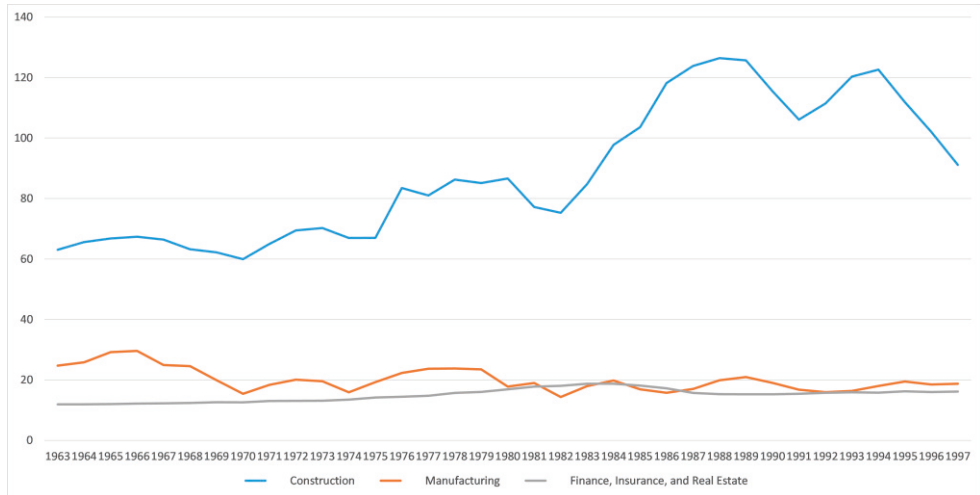
Figure 6.6 US - Sectoral Profit Rates (Kliman-Inspired)

The difference between profit rates in sectors influences investors' decisions on where to invest. Theoretically, it determines the flow of capital between sectors at a macro, whole-economy level. More complicating issues emerge at the micro, local level as smaller capitalists might not afford to switch to other sectors. More importantly, bounded capitals, those who have already heavily invested in constant capital (machinery, equipment, and so on) might also prefer to stay put and hope for the best. The general difference in sectoral profit rates explains that capital tends to switch to more profitable sectors at an aggregate level. And overall, the manufacturing sector's rate of profit moves closer to the aggregate rate. I should note that aggregate rates only explain the process historically and do not reflect the most recent investments. I will come back to this in Section 6.3.

Roberts (2019) calculates the general rate of profit slightly differently, "by looking at total surplus value in an economy against total private capital employed in production; to be as close as possible to Marx's original formula of s/c+v". He measures the rate at the whole economy level and calculates it as "total national income (less depreciation) for surplus value [i.e., GNI/GNP with capital consumption adjustment]; net non-residential private fixed assets for constant capital; and adding in employee compensation for variable capital" (ibid.)[14]. He (ibid.) further elaborates, "[m]ost Marxist measures exclude any measure of variable capital on the grounds that employee compensation (wages plus benefits) is not a stock of invested capital but a flow of circulating capital". Roberts rejects this

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[14] Roberts's method is reminiscent of Brenner's. Brenner calculates the rate of profit as net profits divided by net capital stock. "Net profits = net value added minus the sum of compensation and indirect business taxes, with net value-added equivalent to gross value-added minus depreciation or capital consumption" (Brenner 2006, 345).

assumption. He, however, argues that, "the value of constant fixed capital compared to variable capital is five to eight times larger (depending on whether you use a historic or current cost measure), the addition of a measure of variable capital to the denominator does not change the trend or turning points in the rate of profit significantly" (ibid.).

Roberts (2016c, 274) clarifies that he follows "a simple formula. S = net national product (that's GDP less depreciation) less v (employee compensation); c =net fixed assets (either on a historic or current cost basis); and v = employee compensation, that is, wages plus benefits". He calculates this rate for the whole economy, unlike Kliman who does so for the corporate sector. Kliman's approach, according to Roberts, excludes "employee costs or the product appropriated by government from the private sector through taxation" (ibid.). The whole economy approach "also includes the value and profits appropriated by the financial sector, even though it is not productive in the Marxist sense" (ibid.). He further elaborates that his calculation of "constant capital is for the capitalist sector only and so excludes household investment in homes and government investment" (ibid.).

Again, I have replicated Roberts's method and used national income as GDP minus consumption of fixed capital (as depreciation) divided by net non-residential fixed private assets in both historical and current costs plus compensation of employees (Figure 6.7).
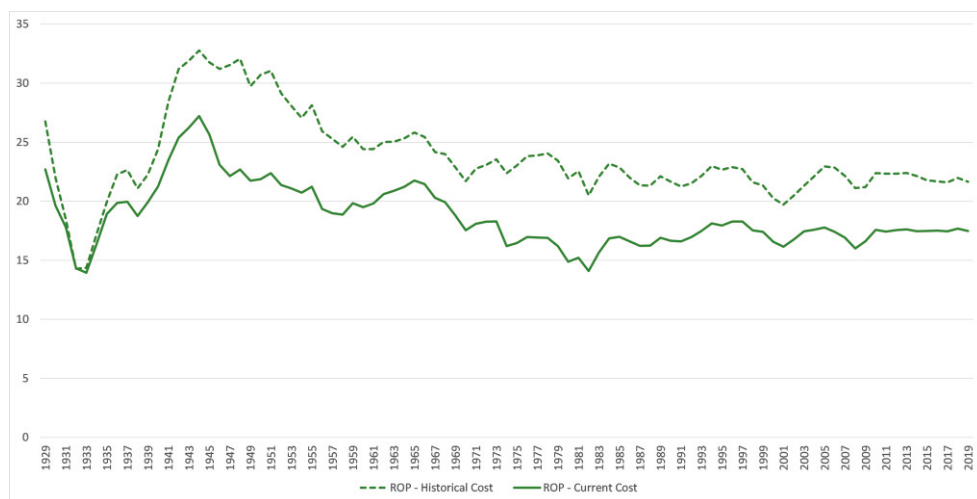
Figure 6.7 *US - General Rate of Profit (%) (Roberts-Inspired)*

The rate is then similarly calculated for post-war sectoral profits (Figure 6.8). Again, similar patterns are observed: a fall in aggregate profit rates since 1965, which, if disaggregated, is mirrored in a sharp fall in profit rates of the manufacturing sector and a slight recovery in the construction sector in the early 1970s.
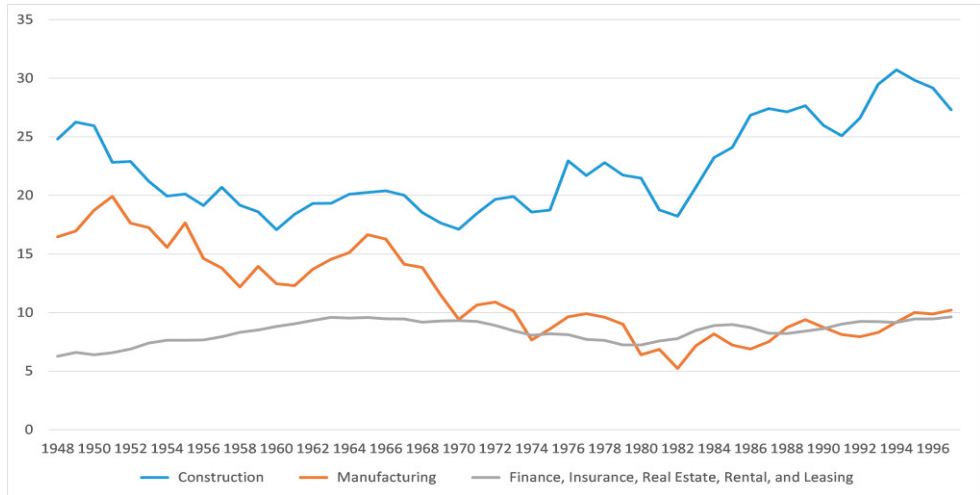
Figure 6.8 US - Sectoral Rates of Profit (Roberts-Inspired)

Using a slightly different method, Shaikh (2016, 65) defines the rate of profit "as the aggregate net operating surplus divided by the net capital stock, both in constant dollars" (cf. Kliman's historical cost method). The total net stock of fixed capital, Shaikh (ibid. 65), clarifies, "consists of the surviving vintages of all past investments in plant and equipment". That means at the time of calculation, "the capital stock encompasses capital ranging from that which was put into place (say) thirty years ago, to that which came on line only one year ago" (ibid.). The discrepancy between the profitability levels in the two time periods means "the overall rate of profit represents the average of the rates of profit on the various vintages still in operation" (ibid.).

Shaikh (ibid. 66) argues, "[t]he profit rate is central to accumulation because profit is the very purpose of capitalist investment, and the profit rate is the ultimate measure of its success". Moreover, the intrinsic role of economic growth in capitalist production and reproduction means sectors are constantly subject to the flow of new capital: "[t]hus, when sectoral profit rates are unequal, new capital tends to flow more rapidly into sectors in which the profit rate is higher than the average, and less rapidly into those in which the profit rate is lower" (ibid.). He further points to a tendency toward the equalization of profit rates between branches. He (ibid.) writes, "[i]t is not a question of entry and exit, but of acceleration and deceleration". The accelerating sectors enjoy a "faster influx of new capital [raising] supply relative to demand, and [driving] down prices and profits" (ibid.). This "search for higher profits tends to diminish high profit rates and raise low ones" and "gives rise to a general tendency for profit rates to be equalized across sectors" (ibid.).

Similar to Kliman and Roberts's methods of calculating profit rates, I have replicated Shaikh's method for aggregate, corporate, private, and sectoral profit rates (see Figures 6.9; 6.10; 6.11; 6.12). Again, the results show similar patterns for

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the early 1970s (Harvey's period of study): a fall in the aggregate and the manufacturing sector's profits and a rise (and higher levels) in the construction sector's profits.
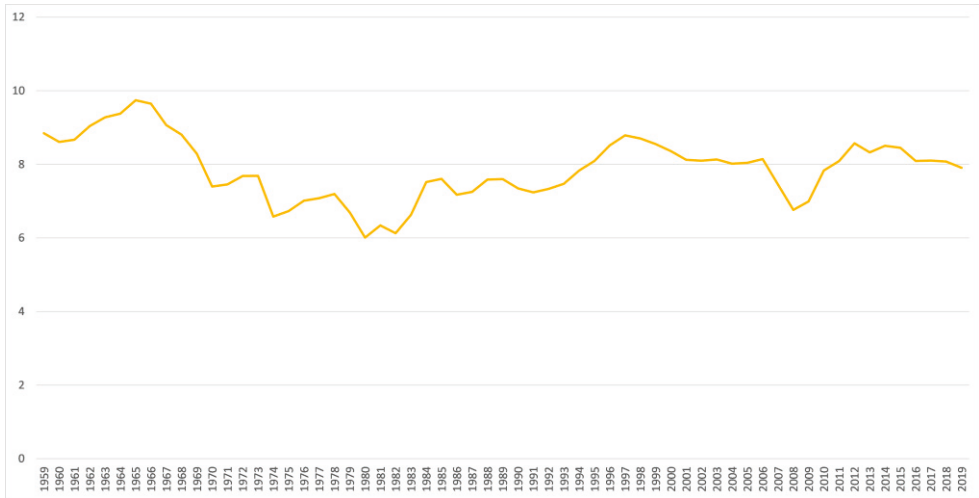
Figure 6.9 US - Aggregate Rate of Profit (Shaikh-Inspired)
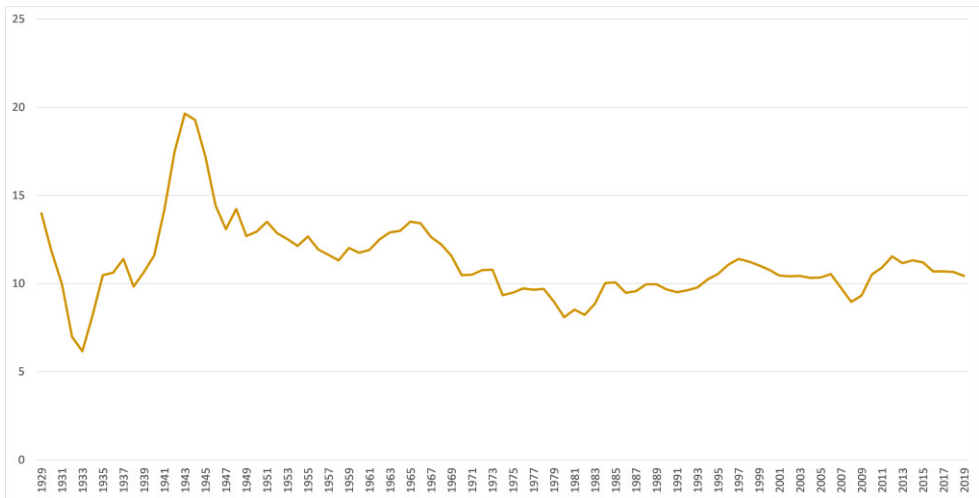
Figure 6.10 US - Aggregate Rate of Profit–Private Sector (Shaikh-Inspired)
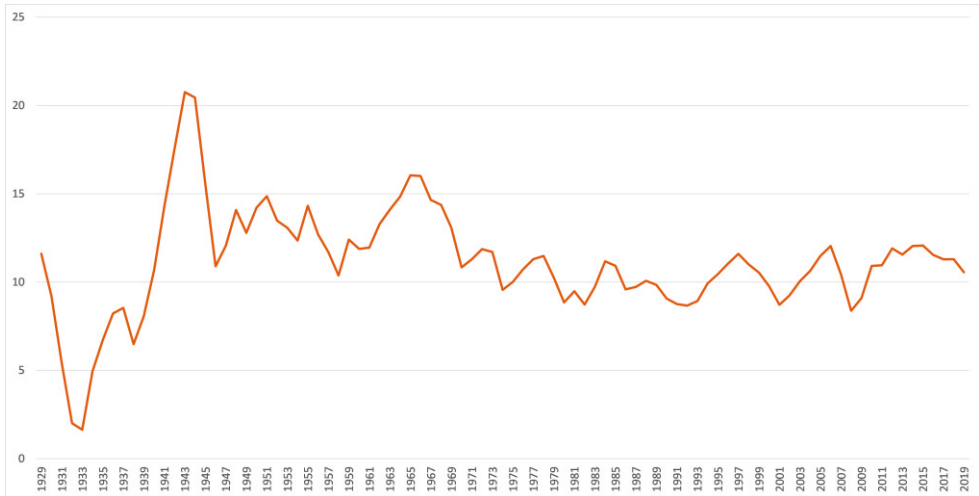
Figure 6.11 US - Corporate Rate of Profit (Shaikh-Inspired)

In Figure 6.12, I calculated profits as gross value added less depreciation less compensations of employees divided by current cost net stock of private fixed assets, where gross value added is computed as GDP minus taxes on production and imports less subsidies. Note that, as Shaikh and Tonak (1994) argue, the values of compensation of employees are higher than the values of variable capital (in its traditional Marxian sense). Therefore, the resulting profit rate (calculated with compensation of employees) will be slightly lower than a profit rate calculated with the traditional variable capital, yet the trend remains intact.
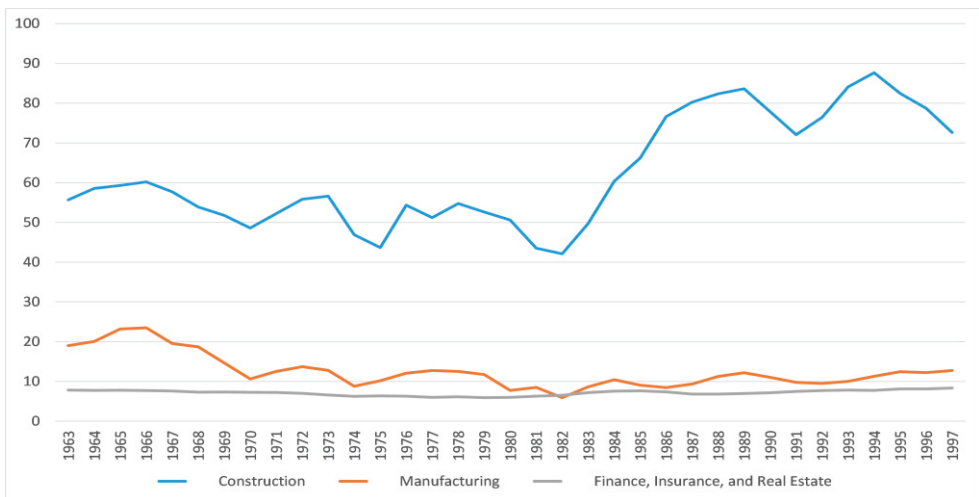
Figure 6.12 US - Sectoral Rate of Profit (%, Current Costs) (Shaikh-Inspired)

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The method of calculation in Figure 6.12 is similar to Kliman's property income indicator. The difference is that Kliman calculates his net operating surplus by further subtracting taxes on production and imports from this indicator, while Shaikh defines the same indicator (as Kliman's property income) as net operating surplus. But there is a discrepancy between the two definitions of NIPA's net operating surplus and Kliman's property income, although the patterns are similar. Shaikh's preferred metric for profit is operating surplus, which he (2015, 125) says is NIPA's equivalent for classical surplus value in money form. Now, if we define profit as net operating surplus (i.e., gross operating surplus minus depreciation of private fixed assets in current costs) and divide it again by current cost net stock of private fixed assets, we have (Figure 6.13):
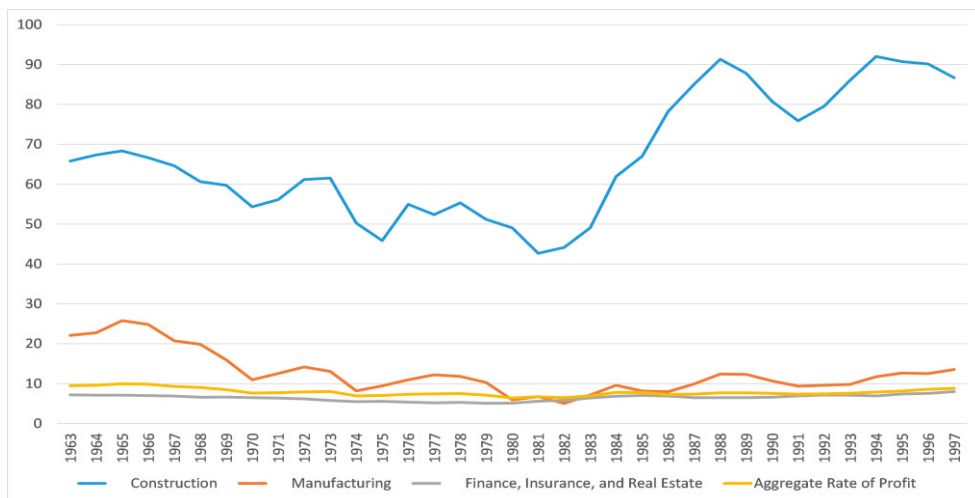
Figure 6.13 US - Sectoral Rate of Profit (Shaikh-Inspired)

The excess profit in the construction sector, as shown in Figure 6.13, determines the macro-level rate and ceiling of land rents[15]. Harvey does not ignore the difference between sectoral rates of return (or differential inter-sectoral profitability). However, he reckons the excess sectoral profit in terms of monopolistic excess returns. He construes monopolistic excess returns as the source of land rent, explains the level of rent with the (monopoly) power of the landlord class, and the driver of

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[15] Shaikh and Tonak (1994, 269-270) calculate the magnitude of land rent for real estate and rental sector, indirectly, as gross output of "land-rent component of total rents paid" after subtracting "dealer' commissions on real estate activities" and "direct payments of royalties and land rent" using a proxy of the ratio of land costs to "total sale price of new and existing homes". They (ibid. 268) reckon that land rent accounts for 25-30 percent of total real estate revenues. Their method could be of use for calculating the magnitude of absolute rent in the marginal plot, provided other types of rent are zero, and to analyze geographies of absolute rent in the housing sector. However, this is beyond the scope of the present monograph.

the transition to the secondary circuit of capital to compensate for the overaccumulation crisis (via a spatial fix). Shaikh's approach is different from an equilibrium state implied in Harvey's model (conceptualized as the spatial fix thesis). For Shaikh (ibid. 66), the inter-sectoral "[m]ovement 'is a never-ending one, with profit rates always overshooting and undershooting their ever-changing centers of gravity". It represents "an average balance achieved only through perpetually offsetting errors" (ibid.). Shaikh calls it "turbulent arbitrage, characterized by recurrent fluctuations, [through which instead] of a uniform rate of profit, competition actually produces a persistent distribution around the average" (ibid.). Even more importantly, "because this process is driven by the movement of new capital, the relevant profit rates are those on new investment" (ibid.). And profit rates of new investments are expected to equalize across sectors (ibid.).

Nonetheless, since the capital stock includes capitals from various investment periods, "it would not be a useful guide to the future profitability of any investment under current consideration. Current investment (i.e., accumulation) is regulated by the estimated profitability of its future performance" (ibid. 65-66). The most recent investments' profit rates determine future profit expectations (ibid. 65-66).

6.3.   Profit Rates on the Recent Investment and Capital Switching

In such a turbulent competitive climate, according to Shaikh (ibid.), "firms make their decisions about investment in new capacity and new methods of production . . . [and] given that profit rates normally fluctuate a great deal from year to year, all new investment must embody a substantial margin of error". His solution is to measure "the incremental rate of return on capital" as gross sectoral profits "divided by gross investment in the previous year" (ibid. 67-68). He (ibid.) stresses, "incremental profit rates, unlike average ones, do 'cross over' a great deal, again and again". That could be an economic mechanism for Harvey's somewhat abstract and ahistorical case for switching from primary to secondary circuits of capital. Incremental profit rates, Shaikh argues, also play "a crucial role in explaining the movements of stock and bond prices, and hence in those of interest rates" (ibid. 68).

Shaikh calculates incremental profit rates as gross profit divided by lagged gross investment (ibid. 857). To calculate gross profits for the 1970s, I used NIPA's gross operating surplus. NIPA's gross operating surplus includes all types of income (including wages) as profit-type income. I confined my calculation to gross operating surplus because the impact of employment types on the overall trend is not significant. Shaikh uses historical cost investment in fixed private assets for gross investment, scaled up with the quantity index. The result of a selection of industries is shown in Figures 6.14 and 6.15. As the figures show, investors tend to switch as the expected profit rates fluctuate, including the rising incremental profits

in the construction sector as opposed to the manufacturing sector in the 1970s. The figures also show, in retrospect, that the construction sector has not been the sole destination of the investment, as other industries also enjoyed their share of capital switching. It is also interesting that profits in finance and insurance began to fall below profits in the construction sector in the early 1970s, making Harvey's presumption that the financial sector dominated and shaped investment in fixed space even more historically and geographically contingent.
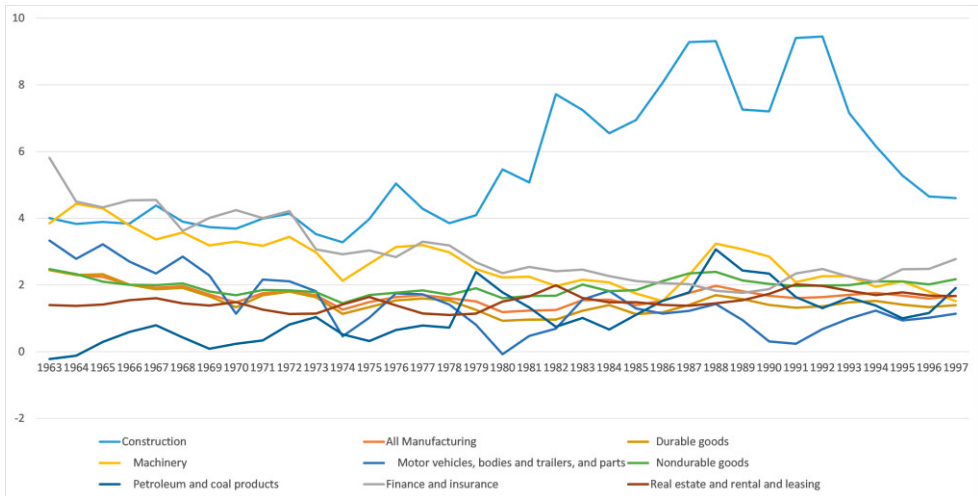
Figure 6.14 US Industries - Incremental Rates of Profit (Shaikh-Inspired)
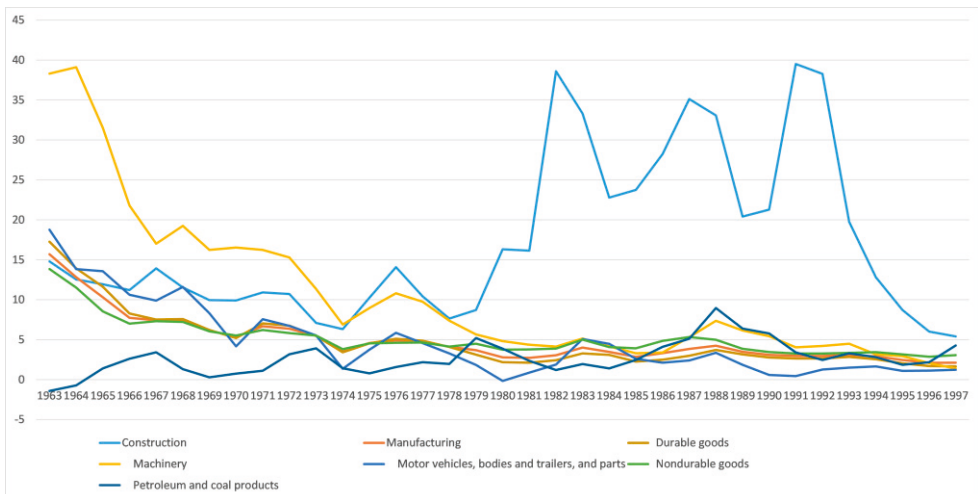
Figure 6.15 US Industries - Incremental Rates of Profit (Shaikh-Inspired)–Simplified

Now, if we exclude different branches of the manufacturing sector, we have (Figure 6.16):
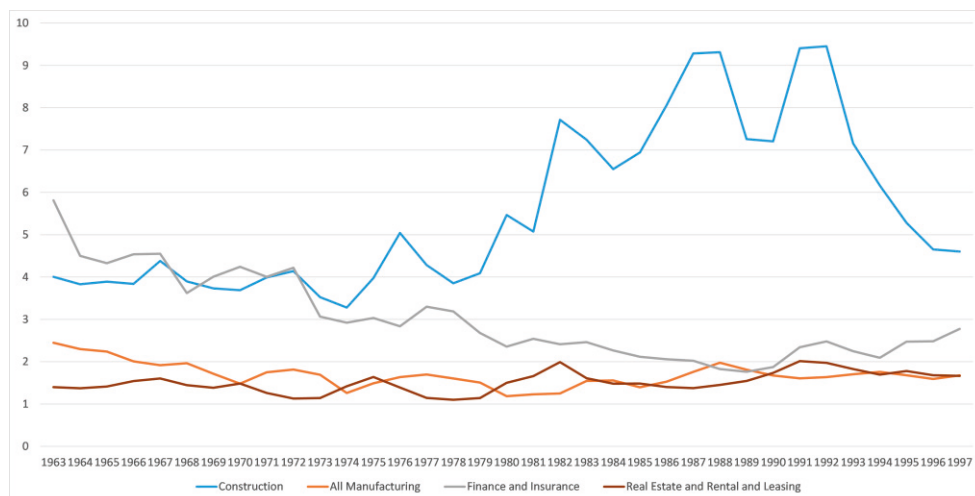
Figure 6.16 US Industries - Incremental Rates of Profit (Shaikh-Inspired)

Figure 6.16 shows that when Harvey conducted his study at the beginning of the 1970s, the construction and financial sectors dominated the competition. But soon, finance falls below the construction sector.

All three methods and definitions demonstrate similar patterns for historical changes in profit rates (see Figure 6.4-6.16). I slightly lean toward Shaikh's definition for the following reasons. His main difference with Kliman is that Kliman uses historical costs, while Shaikh uses current costs. They both seem to argue that the net operating surplus is a more inclusive indicator of corporate profits, although Kliman calls it differently. Kliman does not deny that the NIPA net operating surplus could also work for more specific types of profit. For my purpose, however, the inclusive character of property income comes in handy. Shaikh's net operating surplus as gross value added-compensation-depreciation seems similar to Kliman's property income. The difference is that for Shaikh, gross operating surplus (which he interprets as gross surplus value) is calculated as gross value added-compensations. As for historical or current costs, I argue that Kliman's definition is consistent with my argument regarding the transformation problem, which I borrowed from Kliman (see Chapter 10).

Kliman's and Shaikh's definitions differ from Roberts's in that first, Roberts prefers general profit rates; that is why he uses GNI/GNP with capital consumption adjustment, while Kliman and Shaikh prefer corporate/private rates. Kliman/Shaikh's method is closer to what I aim to analyze here. Second, as Roberts himself points out, adding compensations in the denominator would not make much of a difference as its impact on the trend is insignificant. Shaikh's calculation is also

consistent with his incremental rates of profit (his alternative for Keynes' marginal efficiency of capital) to demonstrate the investment shifts and the recent capital mobility. Shaikh's analysis of incremental rates is also consistent with his 'real (turbulent) competition theory' on which the TILR is based (see Chapter 10). In all three approaches, we witness a secular decline since the mid-1960s in the total rate of profit and the profitability of the manufacturing sector. In Kliman's calculation, there is a slight recovery during the 1970s. That recovery, however, does not change the overall downward trend.

Harvey's data relies on current cost measures of only one segment of returns, i.e., transfer payments. As the three methods show, transfer payment is an inadequate indicator for rates of return (aggregate or sectoral). It might be said that what Harvey means by transfer payment is not literal (as an indicator). Nonetheless, a crucial question (as a data-data anomaly) remains unanswered: how could transfer payments (or any other micro-level isolated indicator of profit) indicate capital switching, so central in the SMLR? And even then, Harvey does not explain the economic drivers of higher returns in housing as the source of rising rents; instead, he explains rent levels with the power of the landlord class. These measurements are central to a consistently endogenous structural and historicized analysis of rent creation and appropriation and capital switching, in the absence of which such processes are exogenously related to monopoly and power relations in the SMLR. Be that as it may, it is likely that Harvey had observed a steady increase in nonfarm proprietors' income contrasted with a sharp increase in dividends, interest, and rent. Harvey might have interpreted this disproportionate figure as an indication of a rising monopoly pricing of properties in Baltimore (Figure 6.17).
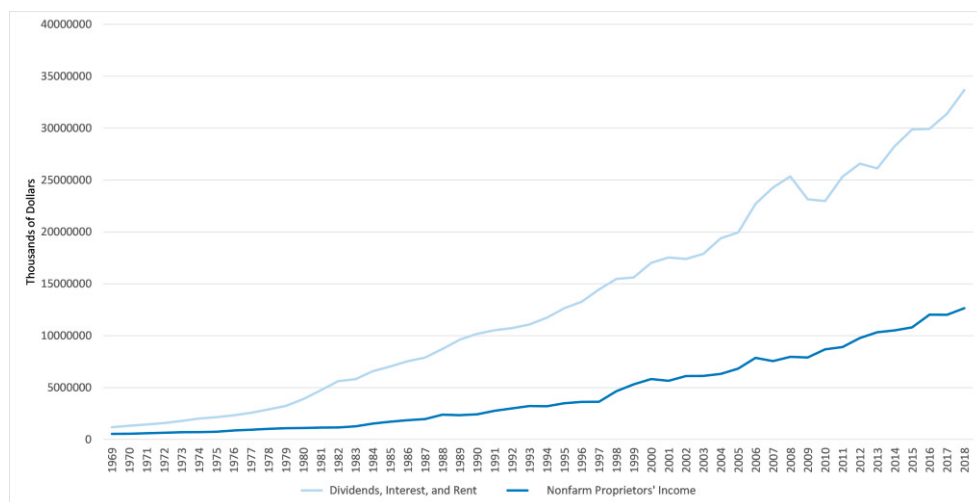
Figure 6.17 Baltimore Metropolitan Area Business Income

More importantly, the TILR points to the historical contingency of the creation of land rents. As the study of profit rates shows, depending on the competitive relations with the manufacturing sector and the differential inter-sectoral profitability, the impact of rent is minimized/maximized in specific periods.

One crucial aspect of Marx's original explanation for the rise of absolute rent is the lower organic composition of capital (capital-wages ratio) in rent-bearing sectors. But, again, that is a matter of empirical analysis (Figure 6.18). The sectoral organic composition of capital (as the net stock of private fixed capital divided by compensations of employees in sectors) indicates that first, as Marx explained, it is a historical process depending on the context (i.e., differential profitability and technological development). Second, as the manufacturing sector's profit rates began to fall, investment in the construction sector's constant capital (i.e., net stock of fixed capital) began to stagnate as the rent component in the sectoral rate of return became ever more influential. Besides, this process is to be understood in the light of technological development (notably, information-communication technology) that began in the 1970s. The process also denotes the increasing costs of constant capital through time (especially in the 1990s) for the manufacturing and ICTs that contributed to the fall in profitability that caused the Great Recession (see, e.g., Jones 2021; Kliman 2012; Roberts 2016c; Shaikh 2011; 2016).
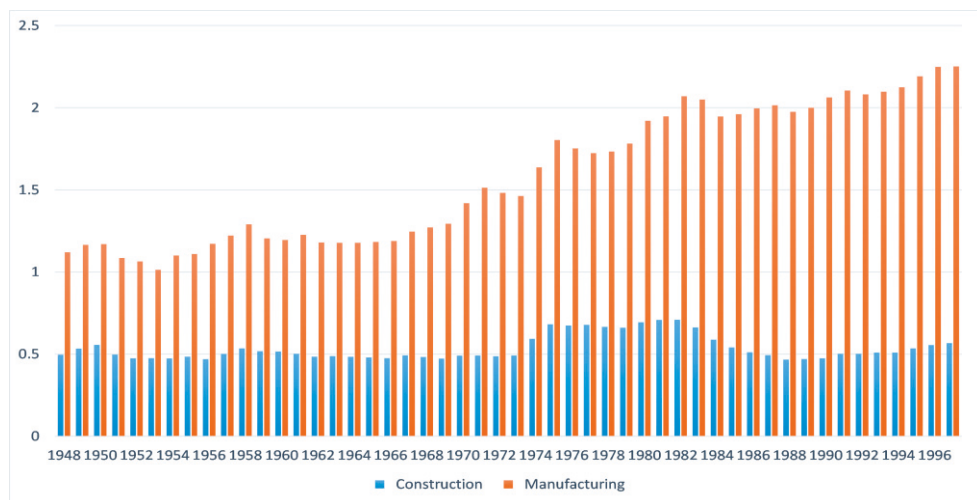
Figure 6.18 US - Sectoral Organic Composition of Capital

6.4. From Macro to Micro

The data presented and tendencies analyzed so far are at national levels. One still needs to explain micro, local mechanisms and processes and the ways in which they are shaped and governed by drivers at the national level. Harvey's empirical material offers only so much, as his starting points are different.

One key empirical difference is that, beyond construction and building activity, Harvey (1974a; 1978; 1989) does not focus much on the construction sector, which Beauregard also criticized (1994). As Beauregard (1994) argues, Harvey does not mirror his data on construction activity, etc., with empirical data for overaccumulation, either. To complement Harvey, here, I focused more carefully on construction data for two reasons. First, analytically, construction signifies a productive activity on land. That is why the return of investment in construction, especially if the land is at the same time owned by the developer, could reflect land rent. Second, as Figures 6.19, 6.20, 6.21, 6.22 show, most constructions are private, and a significant share of the total constructions goes to residential buildings.
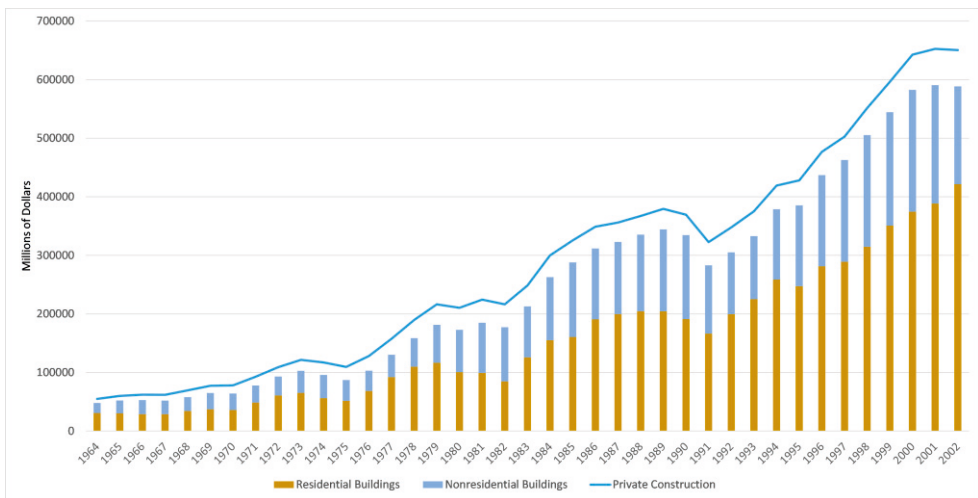
Figure 6.19 US - Annual Value of Construction Put in Place, Current Dollars
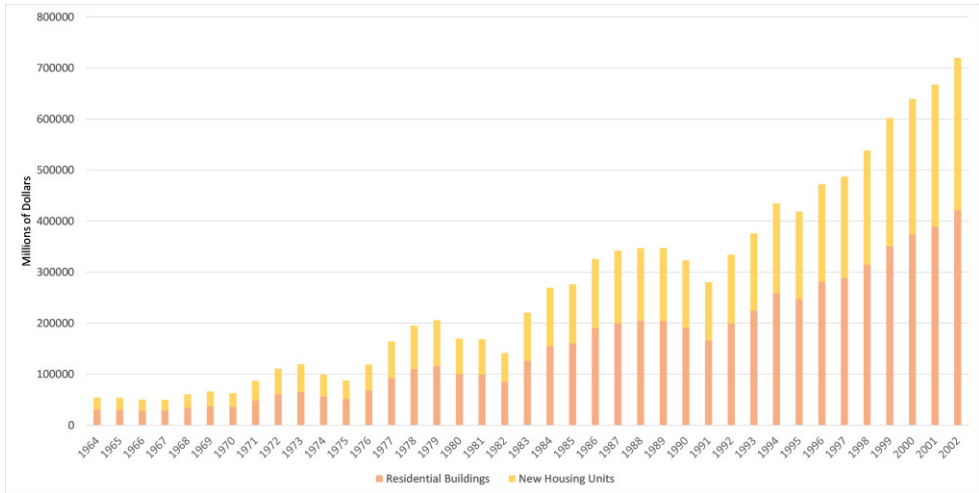
Figure 6.20 US - Annual Value of Construction Put in Place, Current Dollars
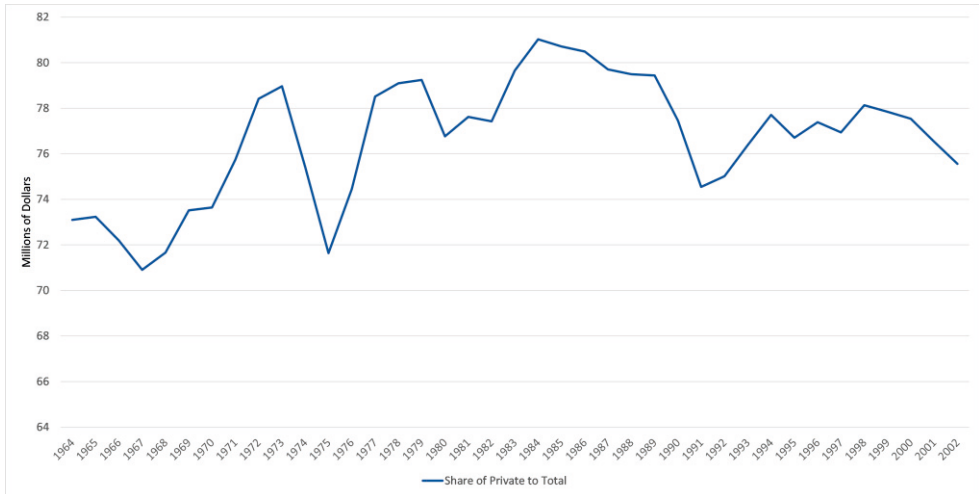
Figure 6.21 US - Annual Value of Construction Put in Place, Current Dollars
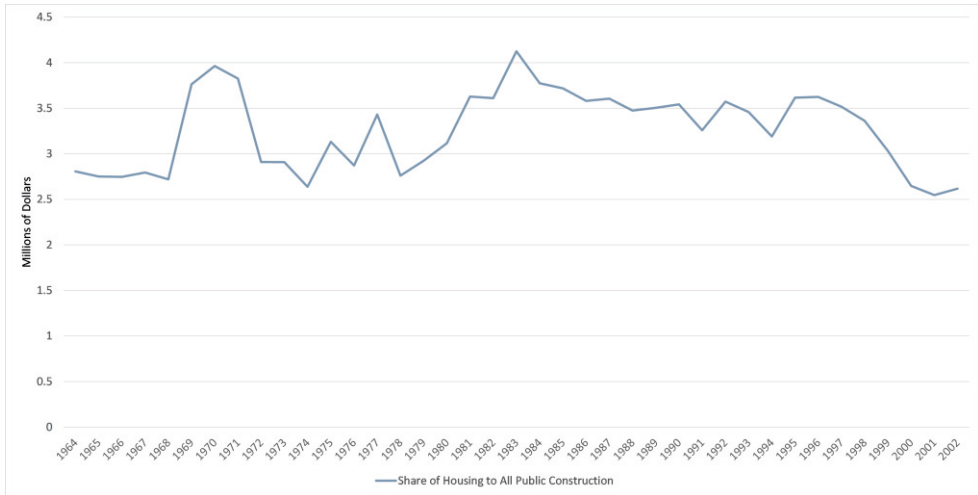
Figure 6.22 US - Annual Value of Construction Put in Place, Current Dollars

The TILR offers alternative analytical tools to measure and explain rent rates, ceilings, magnitudes, and capital switching without referring to monopolistic power relations but with the turbulent inter-sectoral competition. The differential inter-sectoral profitability drives the rate and ceiling of land rent at the whole-economy level. The TILR analyzes this process with the concept of absolute rent, through which the dynamics of investment in urban space could be structurally related to the dynamics of productive capital. And as Shaikh and Tonak (1994) point out, although it is conceptually crucial to distinguish between royalty payments on land (as land rents) and building rents, it is empirically difficult to do so. The differential inter-sectoral rates of return determine whether land rents, at the macro-level, could arise at a given time and place (as an indication of the presence of absolute rent). The existence of absolute rent accelerates the rate of especially new investments in construction.

As Figure 6.20 shows, investment in new housing units (as part of new investments in total new construction) follows a cyclical pattern and corresponds to the rising incremental profit rates in the construction sector nationally during the 1970s (a rise in the early 1970s followed by a slight recession in the mid-1970s and then rose again). But these macro-level tendencies, on their own, do not explain the magnitude of land rent at the micro-level. The micro-level magnitude of land rent is to be analyzed in relation to local investment opportunities (see Footnote 15 above). In housing, differential rent I and II explain potential levels of rent for each investment in apartment blocks (or single unit houses), provided land rents as such arise at the national level. Apartment units' values are determined at the micro (i.e., price) level and, in part, in terms of supply and demand (see Shaikh 2008). That is why they could be subject to financial, speculative practices, particularly with low interest rates for mortgage loans (as, for instance, happened through monetary

policies, e.g., quantitative easing, implemented by many OECD countries, the United States and Sweden included, following the Great Recession).

Harvey's material is inadequate to determine common investment strategies and practices by local developers in terms of differential rent I and II (see also Bruegel 1975; Edel 1992). His case study requires supplementary data to indicate whether active individual capitals in the market could overcome, for instance, racial stigmatizations (what he and Chatterjee (1974, 24) called "neighborhood biases") through more intensive investment in the block (potentially contributing to the gentrification of the area) (through differential rent II) or acquisition of more blocks (through differential rent I). Such an analysis requires qualitative data collection in the field that should have been conducted at the time. Therefore, here I can only conceptualize them as building blocks for future research. But had he and Chatterjee collected such material, it would have been possible to pinpoint specific practices of the local developers in Baltimore in the early 1970s to seek excess profits in the housing market through the appropriation of land rents, which was made possible at the national level due to the fall in the profitability of the manufacturing sector.

Chapter 7. Empirical Study 2: Economic Structures, Land Policy, and the Swedish Construction Sector

This chapter compares the two models' explanatory power in analyzing urban Sweden in a critical assessment of a few seminal studies on this topic that operationalized the SMLR. The comparison highlights two (theory-data) anomalies in the SMLR: a) lack of a consistently endogenous structural analysis of rent creation and appropriation and b) lack of analytical tools and metrics to measure and explain rent rates, ceilings, and magnitudes. I have three reasons for choosing Sweden. First, Sweden experienced a rapid transformation from a primarily public land regime to a generally private one since the 1980s. Second, historically, Sweden experienced a relatively successful municipalized land model, which interestingly includes many exceptions and agential conflicts. Third, Eric Clark is among a handful of scholars to have operationalized Harvey's SMLR for extensive empirical analyses on Stockholm and Malmö using rent gap theory as an influential methodological elaboration of the SMLR for housing research.

7.1. Municipal Site Leasehold

I begin with the crucial characteristic of a far-reaching instrument behind the Swedish social democratic model's success in the post-war period, namely, municipal site leasehold. The municipalization of land is crucial in that if successful, it could minimize land rent at the macro-level, and if not, it could create a mixed competitive landscape between developers and municipalities to extract and appropriate land rents.

Therefore, it is crucial to evaluate the relationship between municipal site leaseholds and the nationalization of land. Had the Swedish urban land been nationalized, absolute rent (as a macro-level category of rent) would be zero. However, the fact that the land was not nationalized necessitates an empirical examination of the extent to which municipalization policy affected the realization of land rents, the periods in which land rent had been minimized, and the ways in which the dissolution and transformation of the strategy into a more market-friendly

one in the late 1980s related to long-term economic trends and inter-sectoral dynamics of rates of return.

Clark and Runesson (1996, 205) define municipal site leasehold as "a form of land disposal in which a landowner of a larger land area lets development land to leaseholders, who pay an annual fee for the site". Appropriating the language of rights, they argue, the leasehold means developers purchase "the right to use the land, and the right of disposal of buildings (to sell or rent out building space)" and the municipality "retains the right to the land's value" (ibid.). That is a mixed system as while private actors are not entitled to increments of land values, they are "by and large free to vie for activity space, trade property rights, and develop building rights within the limits set by municipal plans" (ibid. 204).

The instrument was introduced (and supported by the capitalist class) in 1904 to minimize the impact of land rent on capitalist competition and to limit "unearned increments of land rent" and "'market imperfections' related to spatial inefficiencies and geographic spillovers" (ibid.; also Passow 1970, 180). Clark and Runesson (1996, 204) argue against calling municipal site leasehold a form of nationalization of land because the national state's power invested in municipalities was "not obligatory". More accurately, it is a case of municipalization of land that is not designed to nullify land rents at the national level, leaving space for rent extractions here and there. Clark and Runesson (ibid.) list three redistributive areas envisioned in this land policy for municipal empowerment. These areas are: "the distribution of land uses over space, the distribution of building and property rights among presumptive developers and users, or the distribution of development gains and increments in land value" (ibid.). A critical point here is that although municipalities enjoy a certain degree of monopoly control over planning processes, they have "much less control over the distribution of rights to use land" after development and even during the redevelopment of the site (ibid.).

Municipal site leasehold as a distribution policy was intended to rationalize planning processes while also redirecting land rent increments to a public body without nationalization (that is, without nullifying rents at the macro-level). Both aspects came in handy to social democrats, and they expanded the policy in the 1960s and the 1970s as part of their welfare plans (ibid. 207). However, "during the 1980s, its implementation has fallen to below the level of the 1940s"–to 20 percent of the 1970-1977 levels (ibid.). Clark and Runesson (ibid. 208) explain this fall, to some extent, with a fall in the construction activity in the 1980s to 70 percent of the 1970-1977 levels. In 1990, Clark and Runesson report (ibid.), only 9 percent of multi-dwelling buildings were on leasehold land nationwide, compared to 20 percent in 1978.

The Swedish leasehold policy's mixed character is evident in its geographically dispersed nature. It is up to local governments to employ the policy and determine the extent of their involvement. Where it was applied, it was standard procedure that a small part of land rent returns accrues to the municipality. That is why in the case of urban renewal in Lower Norrmalm (the central business district) in Stockholm,

as Clark and Gullberg (1997) argue, the municipality faced periodic challenges from larger developers (ibid. 261). These challenges were periodic in that a) the municipality, at times, collaborates with private developers in the construction, and b) by developing regional, comprehensive plans for more extensive projects, the municipality provides crucial investment opportunities for larger developers, a clear case of which is the redevelopment of Lower Norrmalm during the 1960s and 1970s (ibid. 257). These public-private collaborations are demarcated by the distinction between building values and land values in the policy. That is evident in the public party's considerable investment in the regional transport net and growing discounts in leasehold fees in the 1960s and the 1970s.

At the peak of the social democratic era, municipalities' control over planning processes and rent returns secured their power to redistribute rent returns to increase social wages and needs assessment, evident in their pursuit of developing largely public (low-income) multi-dwelling housing projects, a clear example of which is the Million Programme (1965-1974) (Duncan 1986; 1989). But the periodic challenge from developers (who found leasehold fees affecting their expected returns) (Clark and Runesson 1996, 211) also means at times "[t]he city found it very difficult to find interested developers who could agree to the terms of site leasehold, and the city initially had to stand as developer to get the process underway" (Clark and Gullberg 1997, 261). This process made such bureaucratic processes increasingly inefficient, evident in rising development and legal court costs (Ratzka 1980; 1981, Clark and Runesson 1996). As a result, in the 1980s, municipalities started to sell leasehold lands to leaseholders while maintaining control over planning processes (Clark and Runesson 1996, 209).

During the 20th century, I would argue, the Swedish state devised three possible strategies for land rent at the macro-level. First, the municipalization of land initially introduced through municipal site leasehold in 1904 served the capital's interest to minimize the rent effect and stimulate free competition. Second, the social democrats' taking over the policy, especially in the 1960s, epitomizes the same policy's appropriation for the labor's interest, this time to minimize the rent for critical urban land plots, redirect rent returns to the public party, and deploy the returns for the redistribution of welfare services. Finally, the third strategy that started in the 1980s to deregulate and eventually sell off leasehold lands, as we will see below, denotes using rents to compensate for the fall in manufacturing profit rates. That prompts: what happened in the Swedish economy, at the macro-level, that necessitated such a dramatic shift in policy and urban strategy?

Using the TILR, Figure 7.1[16] shows Swedish rates of return at the aggregate and corporate levels since 1980, and Figures 7.2 and 7.3 show rates of return for non-financial and financial corporations in the same period.

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[16] I used official data (e.g., SCB, OECD, CBT) for all figures in this chapter, mainly with my calculations. To avoid repetition, I present the detailed description of the sources (with tables, lines, etc.) in Appendix 3.2.
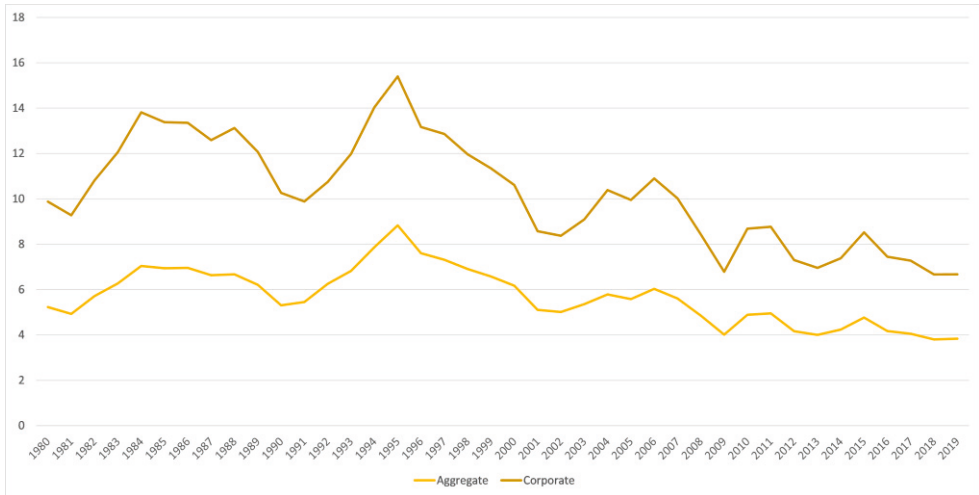
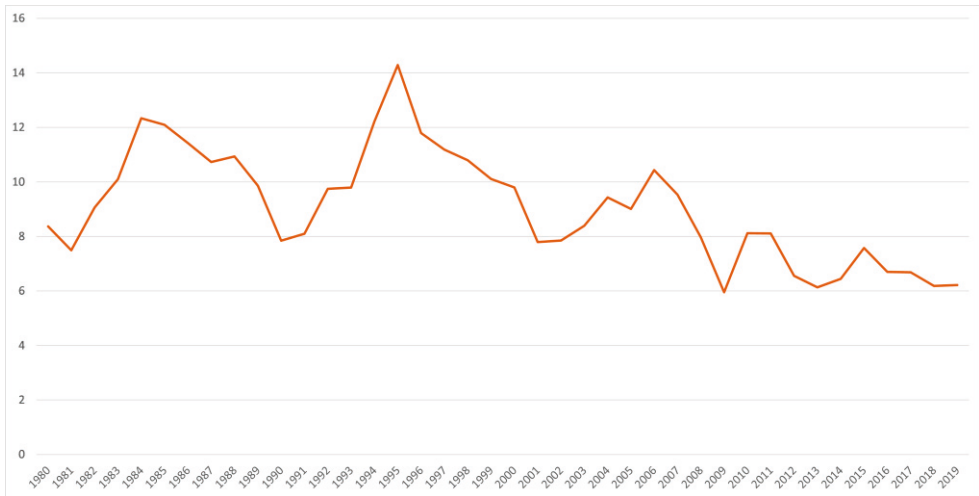**Figure 7.1** Sweden - Aggregate and Corporate Rates of Return, 1980-2019

Figure 7.2 Sweden - Non-Financial Corporations Rate of Return, 1980-2019

Figure 7.3 Sweden - Financial Corporations Rate of Return, 1980-2019

As Figures 7.1 and 7.2 show, the Swedish economy, as a whole, and its non-financial corporations experienced two peaks and their subsequent falls in profit rates between 1980 and 2000. The first one is in 1984, with a subsequent recession in 1990. The second one is in 1995 following a rapid recovery since 1990 with a subsequent recession in 2001. It is also noteworthy that financial corporations experienced the opposite of this development with rising profitability between 1985 and 1990, a rapid decline in 1991 (the so-called 'banking crisis') followed by a recovery in 1993. Both aggregate and corporate profit rates have been falling since the mid-1990s, with a slight recovery between 2004 and 2006 and another in 2015.

The method of calculating profit rates is similar to the one I presented in Chapter 6: net operating surplus as net profits divided by net stock of capital (current cost). Capital stock data, however, is not available in the Swedish data before 1980. More important, it is a debatable category as different countries use different methods at different times, and Sweden only matched its method with other European countries in 1993 (Wolf 1997). To get a broader picture, and for the sake of illustration, one could replace the net capital stock with gross investment (gross fixed capital formation) in the denominator. The result is shown in Figure 7.4. The pattern fits the more accurate calculation (Figures 7.1, 7.2, 7.3 above), even though the values are different. The figure also shows the downward trend in profit rates throughout the 1960s following a slight recovery in the late 1950s (cf. Clark and Gullberg 1991; Clark 1995a).
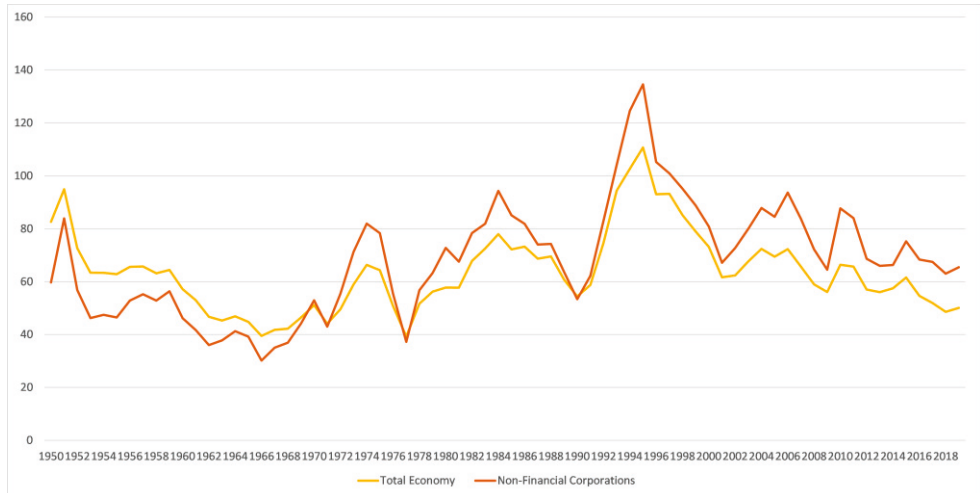
Figure 7.4 Sweden - Total and Non-Financial Rates of Profit (Alternative Method) 1950-2019

More importantly, as Shaikh (2016, 60) points out, one crucial aspect of the stagflation crisis (rising unemployment and inflation at the same time) in many Keynesian welfare states was a closing gap between productivity and real wages as real wages began to grow faster than productivity, which contributed to the falling profit rates at the aggregate level. As Figure 7.5 shows, the gap between productivity (real value-added per hour worked) and real wages (labor costs per hour worked) started to close in the late 1970s, and real wages finally reached productivity in 1985. The Swedish economy struggled with this throughout the 1990s, but productivity began to rise in the early 1990s. It is also noteworthy to look at unit labor costs for the manufacturing sector that began to rise dramatically since 1974 and reached a peak in 1992. Then, it declined until 2007 (before the Great Recession) sharply. Figures 7.6 and 7.7 further support this analysis by showing a slow growth of productivity vis-à-vis wages since the early 1990s.
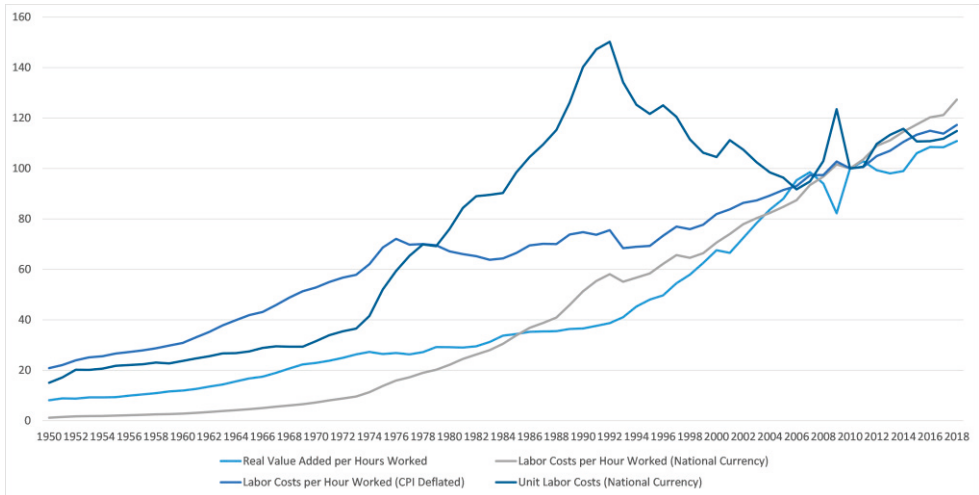
Figure 7.5 Sweden - Comparative Data for Output, Compensations, and Unit Labor Costs, Manufacturing Sector 1950-2018, 2010=100

Figure 7.6 Sweden - Multifactor Productivity Growth 1993-2018
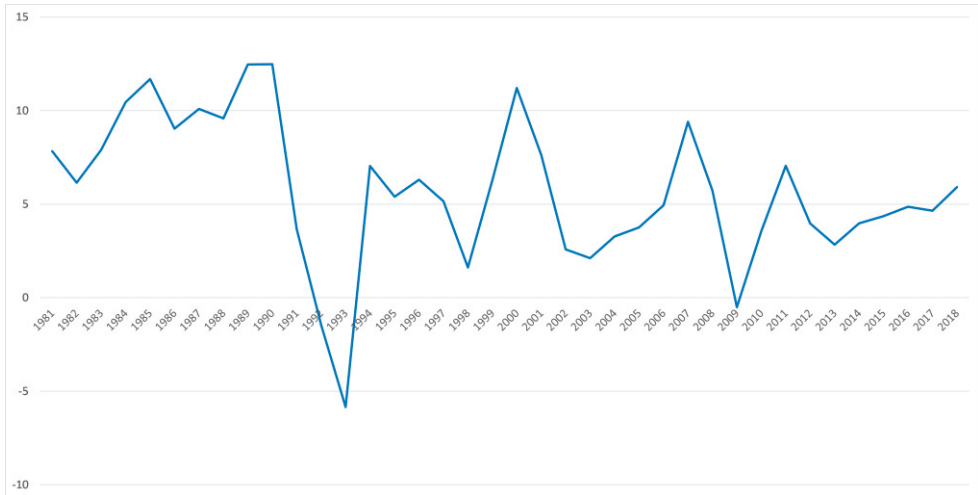
Figure 7.7 Sweden - Compensation of Employees (Growth) 1981-2018

This analysis is somewhat in contrast to the analysis provided by Clark (1995a), Clark and Gullberg (1991; 1997), and Clark and Runesson (1996), who see the discontinuation of municipal site leasehold in terms of a political (power) struggle over the procedures and the proceedings, particularly in their historical case of Lower Norrmalm in Stockholm (growing legal/court fees, values of leasehold fees, planning monopoly, and the like).

The planning monopoly plays a crucial role in their explanation. Not only did the lack of control on planning processes contribute to a growing "insecurity" among developers, Clark and Gullberg (1991, 501) contend, but also the implementation of the comprehensive plan played a crucial role in the making and taking of rent gaps. In two phases of a) "systematic rejection of applications for building permits" before the development of the comprehensive plan for the renewal of Lower Norrmalm as a central business district, and b) following the development and implementation of the comprehensive plan, the municipal planning monopoly and subsequent redevelopment regulations contributed respectively to the depression of capitalized rents and boosting potential rents (ibid. 502). Clark and Gullberg clarify that "the rent gap landscape of Stockholm's inner city was formed in part by the activities and powers of the Lower Norrmalm Delegation [responsible for the development of the comprehensive plan for the area], the local building committee and the interests of private developers and other agents involved in building provision" (ibid. 502). In the case of municipal site leasehold, Clark and Runesson (1996, 214) argue, "dissatisfaction among leaseholders due to unpredictability and steeply increased fees at 10- or 20-year intervals, considerable difficulties for municipalities to secure return on investment and increments in land value, and, associated with these two problems, rapidly increasing numbers of costly judicial procedures" contributed to the policy's collapse (and eventual discontinuation) in the late 1980s.

The TILR, in contrast, implies macro-level structural economic problems discussed above in terms of profitability and productivity inform these agential decisions. However limited, the municipalization of the land during the crisis of profitability had been driving the struggle between developers and municipalities to extract land rents. Conflicts over policy and planning processes are only the consequence of these macro-level economic challenges. And the discontinuation of the leasehold policy was to facilitate rent extraction for developers to compensate for the falling profitability in the latter half of the 1980s.

7.2.   From Macro to Micro and Back

Three analytical approaches, according to Clark and Gullberg (1991), are commonly used to analyze rents in urban Sweden. The first one is a regional and spatial approach that aims to understand and explain regional (economic) development and spatial restructuring surrounding the area under study. The second one aims to explain building provisions and similar institutional relations and regulations shaping investment choices on the site. And the last one aims to explain macro-level patterns governing investment choices. Rent theory, specifically rent gap theory, is utilized to serve the first of the three. Ball's institutionalist model of building provision serves the second. And building cycles model is used for the third (Clark and Gullberg 1991; 1997; Clark 1995a).

Clark and Gullberg's (1991, 492) historical study of Lower Norrmalm in Stockholm is crucial in its proposal to synthesize the above-mentioned macro and micro-level analyses in the form of an analytical interplay. Clark and Gullberg analyze long swings in construction activity at the national level, which are "commonly identified in time series of investment in industrial, infrastructural and residential construction" (ibid. 493). These indicators are similar to those of Harvey (1978; 1989) to illustrate capital switching. In their proposal, long swings in construction activity at the national level govern patterns of making and taking rent gaps, which in turn are regulated by agential and institutional relations of building provision between public and private actors "to prevent the theoretically dubious anthropomorphic reification of building cycles and rent gaps" (Clark and Gullberg 1991, 494).

According to Clark and Gullberg, the crucial macro-level indicator is construction activity, whose fluctuations represent long swings, and it is calculated as gross fixed capital formation in fixed assets by type (see also Figure 7.8 for 1993-2018 period). "[F]luctuations in factors generally associated with long swings in construction activity may be seen as influencing potential land rents, raising the question if they in part determine the pace of depreciation cycles in specific urban sites" (Clark and Gullberg 1991, 498). However, depreciation cycles do not occur synchronically across the city due to "the spatial and temporal unevenness of change in potential

and actual land rents" (ibid.). Thus, "[c]hanges in potential land rents and therewith rent gaps exert considerable influence on the pace of depreciation via their impact on the maintenance policies and plans of property owners" (ibid.).

It is argued that "during the period prior to comprehensive plan formulation, when the future of each individual property in the context of a wide variety of plan solutions was undecided, very low levels of construction activity were induced" (ibid. 501). They identify "the general state of insecurity" among developers and property owners leading to a fewer number of applications for building permits on the one hand, and systematic rejection of permits by "the local building committee" as an "active discouragement of building activity", on the other, to explain the regulatory change in the late 1970s and the downswing of construction activity (ibid.).

In other words, they analyze investment decisions as outcomes of a combination of economic, administrative, and institutional relations and conflicts. They also explain the rising levels of potential rents with the municipal planning monopoly and redevelopment regulations and the declining capitalized rents with the downswing of construction activity itself explained by a growing "state of insecurity" among developers and landowners. Relative spatial development is also explained in terms of the role of comprehensive plans in attracting (or discouraging) private investors. The plan is an outcome of the public-private conflict influenced by developer interest, financial interest, speculative construction, etc. Urban investment choices are explained in terms of changes in land policy, development of comprehensive plans, public-private conflicts over administrative and planning monopoly.

Elsewhere, Clark (1995a, 87) asks a crucial question "why Stockholm experiences such a long postwar cycle in non-residential construction, with a long upswing from the mid-50s to the late 60s followed by an equally long downswing". He explains it with the establishment of Lower Norrmalm Delegation in 1951 and the hegemonic "political ideology of a strong local government controlling urban redevelopment" (ibid.). A competing explanation using the TILR would draw attention to differential inter-sectoral dynamics at the national level that govern rising rent rates and levels at the whole-economy level.

Let me now discuss some potentially relevant macro-level variables as anticipated in the TILR. Figure 7.8 shows gross investment in assets by type since 1993 (the data is unavailable before 1993). Figure 7.8 shows that a) the share of residential to non-residential has been growing dramatically since the beginning of the 21st century, and b) the investment peaked in 2007 (before the Great Recession). More interestingly, during the rising non-financial profit rates between 1990-1995, the gap between residential and non-residential investments is also growing. Figure 7.9 shows the higher share of new constructions compared to renovations for the same period.
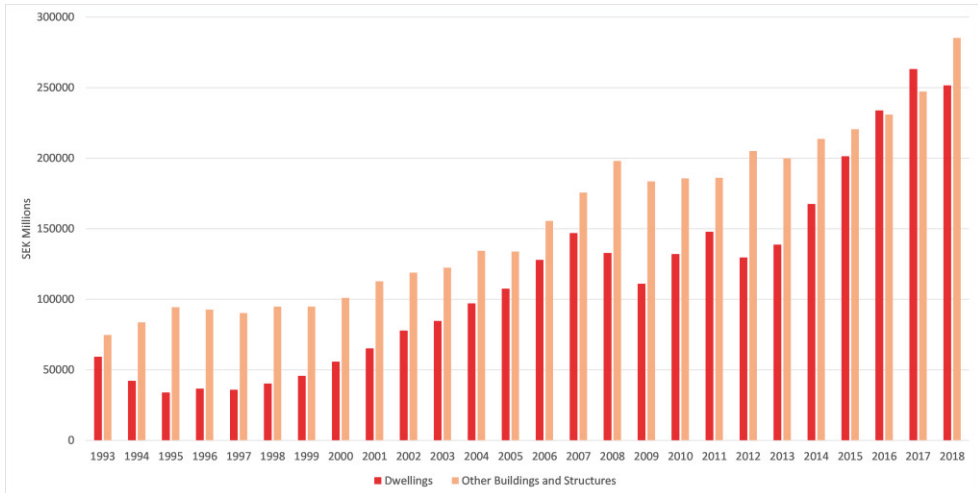
Figure 7.8 Sweden - Fixed Captial Formation (Investments) in Residential and Non-Residential Construction, Dwellings and Non-Residential (Current Prices)
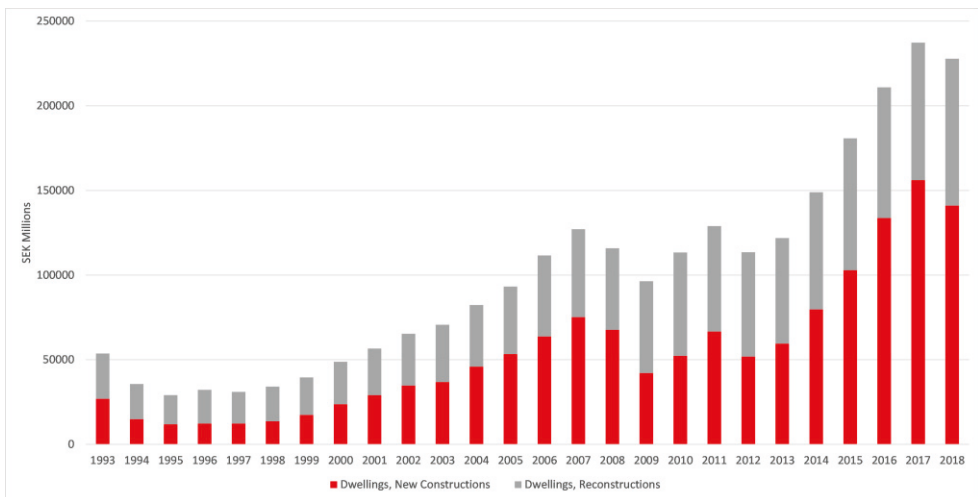

Figure 7.9 Sweden - Fixed Captial Formation (Investments) in Residential and Non-Residential Construction, Residential New Constructions and Residential Reconstructions (Current Prices)

Figures 7.10, 7.11, 7.12, 7.13 demonstrate new constructions in Sweden and its three largest metropolitan areas (Stockholm, Gothenburg, and Malmö) since 1975. The figures show during the upward trends in the total economy's profit rates in the first half of the 1980s, and again in the first half of the 1990s, new constructions are falling. The first cycles (1980-1990) in Gothenburg and Malmö are more visibly similar to the national trend than in Stockholm. But new constructions in all three major metropolitan areas follow the national trend since 1990, with a sharp decline

during the rapid recovery of 1990-1995 and a steady increase since then as profit rates began to fall in 1995.

Figure 7.10 Sweden - Completed Dwellings in Newly Constructed Buildings (Number of Units)
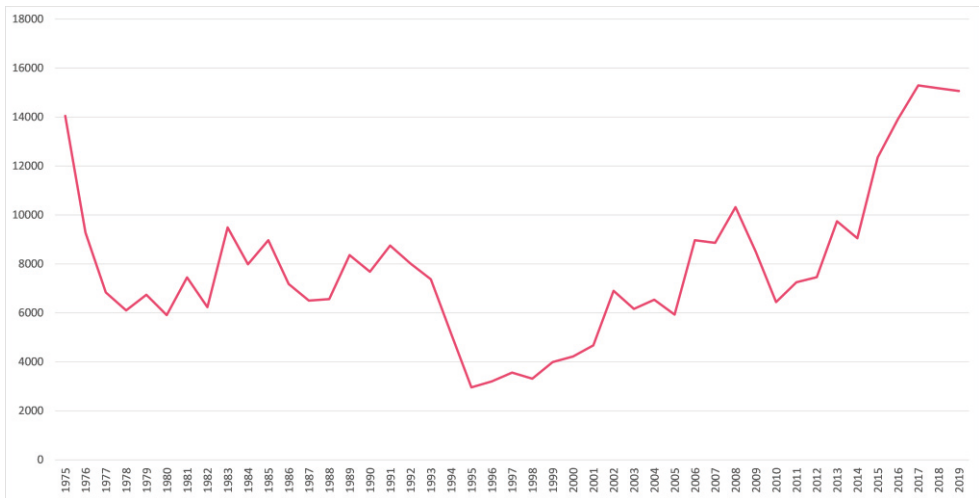
Figure 7.11 Greater Stockholm - Completed Dwellings in Newly Constructed Buildings (Number of Units)
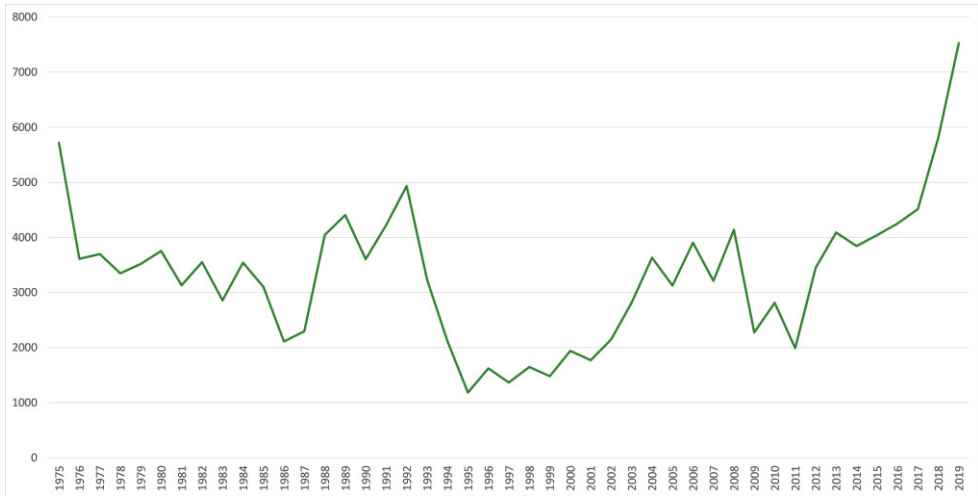
Figure 7.12 Greater Gothenburg - Completed Dwellings in Newly Constructed Buildings (Number of Units)
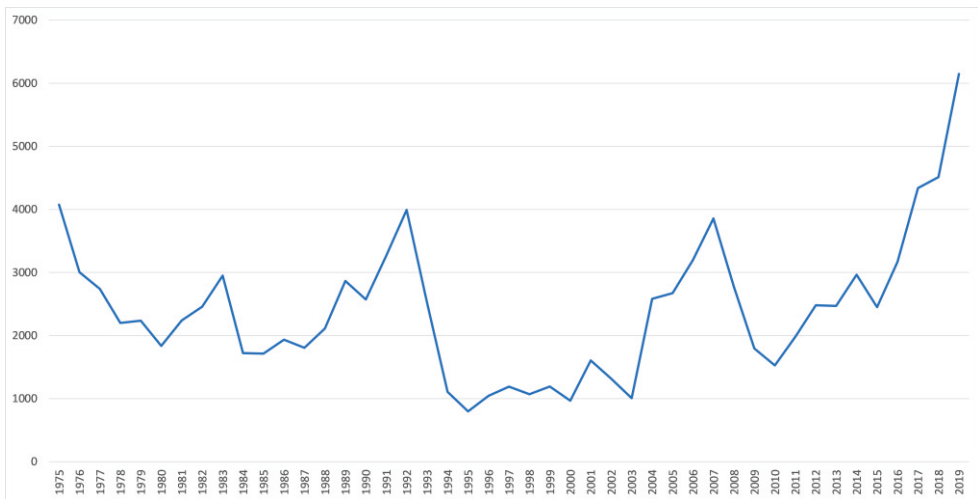
Figure 7.13 Greater Malmö - Completed Dwellings in Newly Constructed Buildings (Number of Units)

A closer look at Stockholm's building activity reveals that while demolitions (Figure 7.15) generally lead the new construction trends, the trend of conversions within residential buildings (Figure 7.14, yellow line) goes the opposite. Building activity data is crucial in explaining micro-level rent extractions in the construction sector, particularly in differential rent II (a more intensive investment in the existing built environment). But on its own, it does not indicate drivers of fluctuations in the building activity.
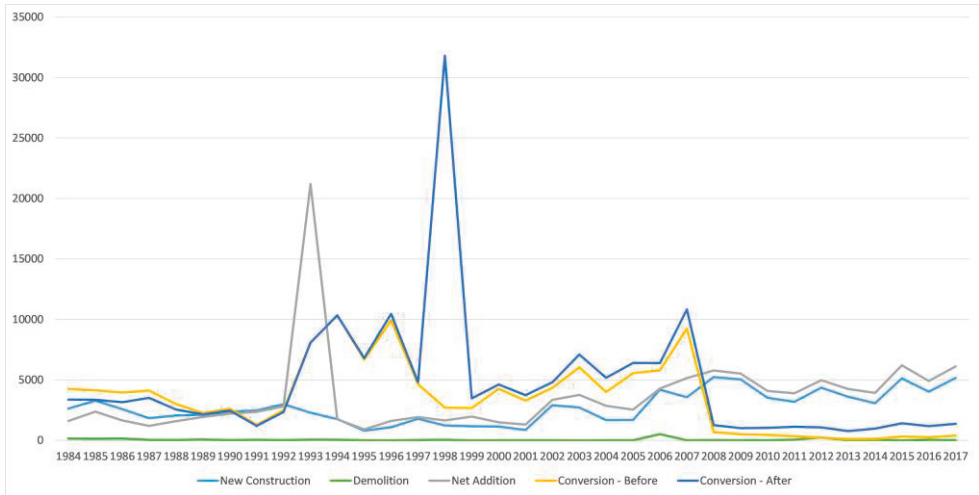
Figure 7.14 Stockholm - Building Activity, All Building Activities
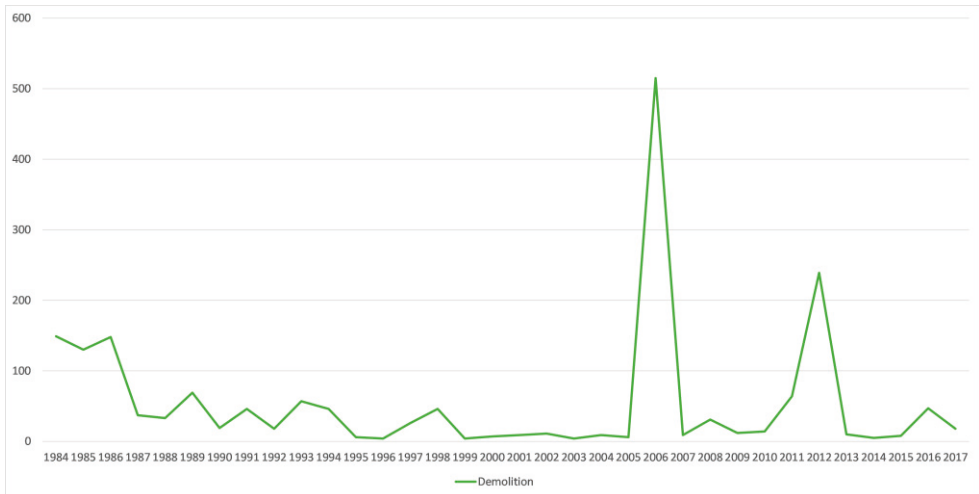
Figure 7.15 Stockholm - Building Activity, Demolitions

Similar is the case for permits issued for new construction in these regions since the mid-1990s (Figure 7.16-19).
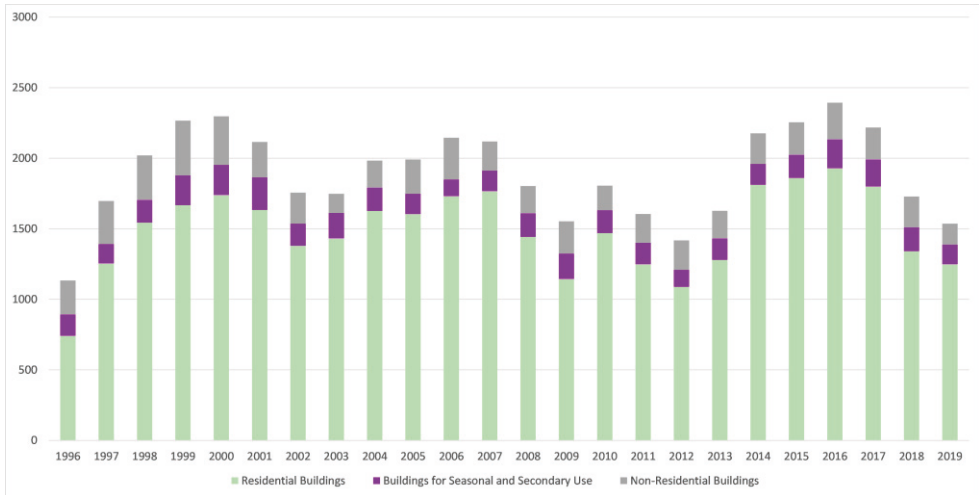
Figure 7.16 Greater Stockholm - Building Permits for New Construction (Number by Type Building)
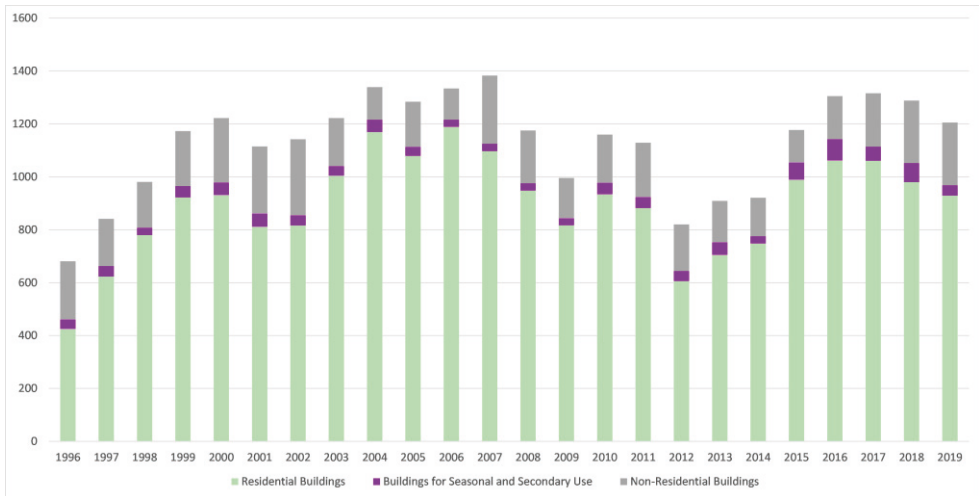
Figure 7.17 Greater Gothenburg - Building Permits for New Construction (Number by Type Building)

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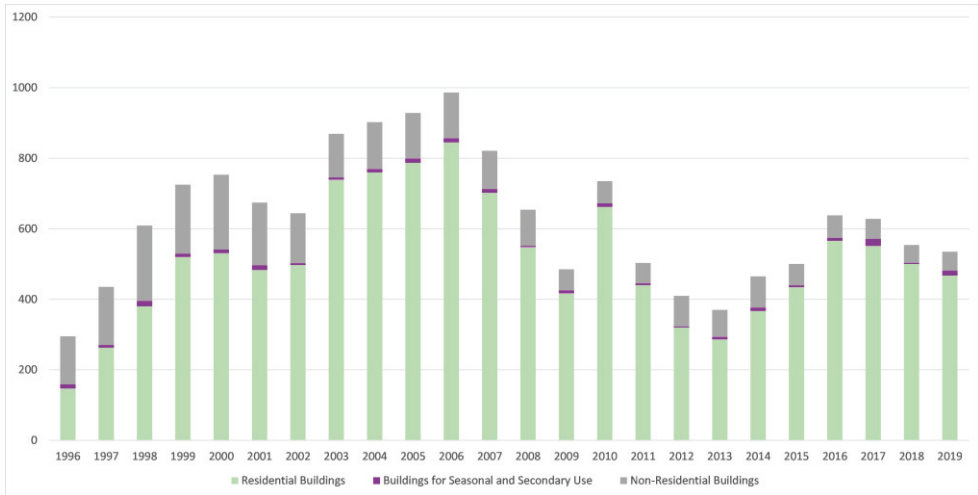
Figure 7.18 Greater Malmö - Building Permits for New Construction (Number by Type Building)
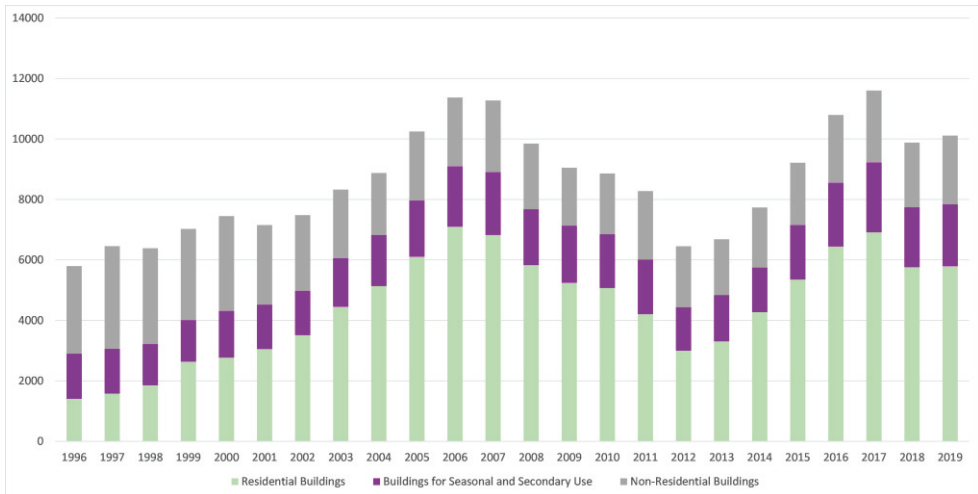
Figure 7.19 Sweden, Non-Metropolitan Areas - Building Permits for New Construction (Number by Type Building)

It is important to note that the share of buildings and infrastructure is significantly higher than the share of agricultural land in all land assets, as Figures 7.20-22 show. Statistics Sweden includes land as a non-produced, non-financial asset and equates non-produced, non-financial assets (line AN21) with natural resources (line AN21) with land (line AN211). As Figures 7.20-22 show, most land assets (at net current cost) are "land underlying buildings and structures". Due to the high share of residential to all construction investments, studying patterns and fluctuations of the construction sector is crucial to understanding the housing sector's patterns and fluctuations.

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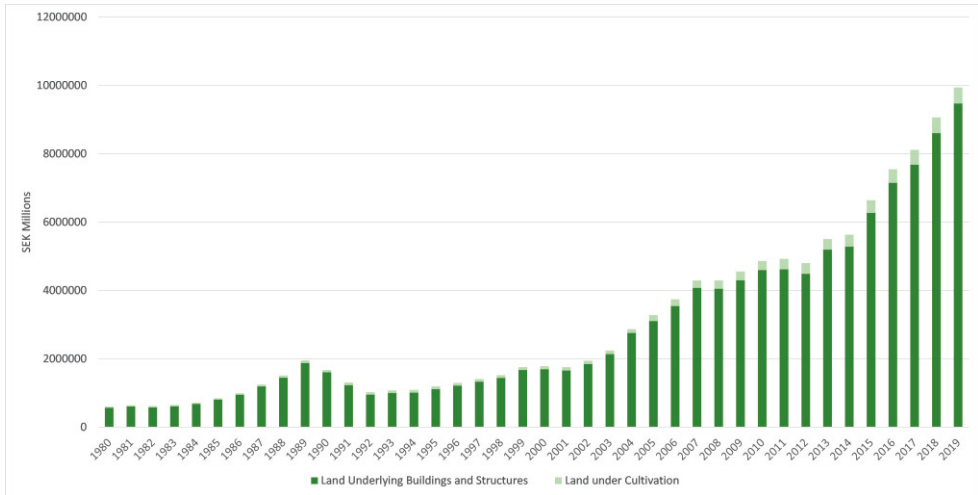
Figure 7.20 Sweden - Land Assets by Type (Total Economy)
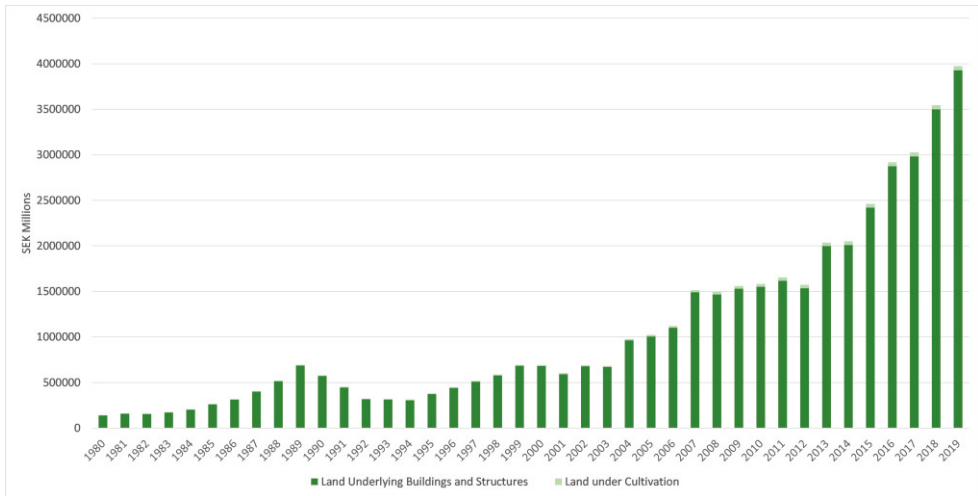
Figure 7.21 Sweden - Land Assets by Type (Non-Financial Corporations)
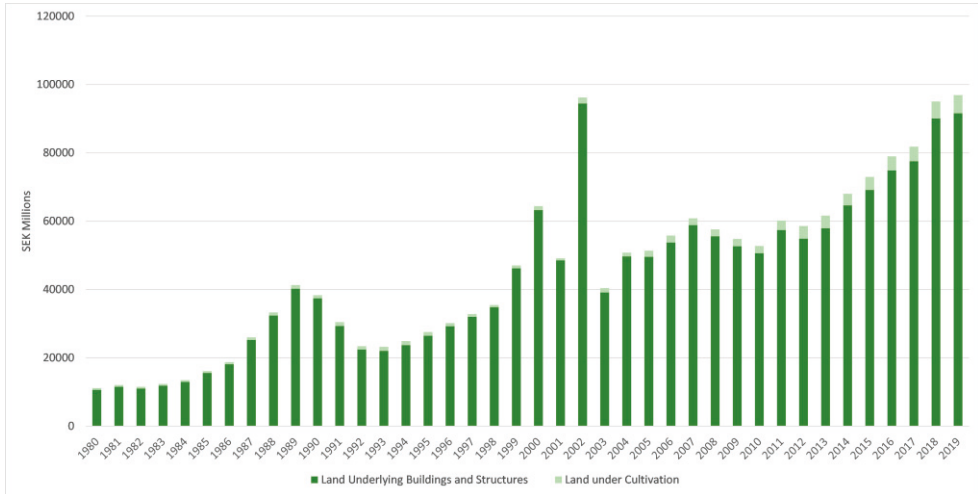
Figure 7.22 Sweden - Land Assets by Type (Financial Corporations)

As discussed in Chapter 6, in the TILR, differential inter-sectoral profit rates are decisive in understanding rent creation and appropriation patterns at the whole-economy level. Again, since the capital stock data is not available before 1993 in Sweden, the data presented in Figure 7.23-26 begins with 1993. Nevertheless, the patterns fit the profit rate data presented in Figure 7.1. Therefore, it is safe to assume patterns are cautiously generalizable to pre-1993 periods. Figure 7.23 shows Swedish sectoral profit rates (inspired by Shaikh's method) for manufacturing, construction, information and communication, finance, and real estate. Figure 7.24 shows the results inspired by Roberts's method. Figure 7.25 shows the results inspired by Kliman's method, and Figure 7.26 excludes finance for a clearer picture for Figure 7.25.
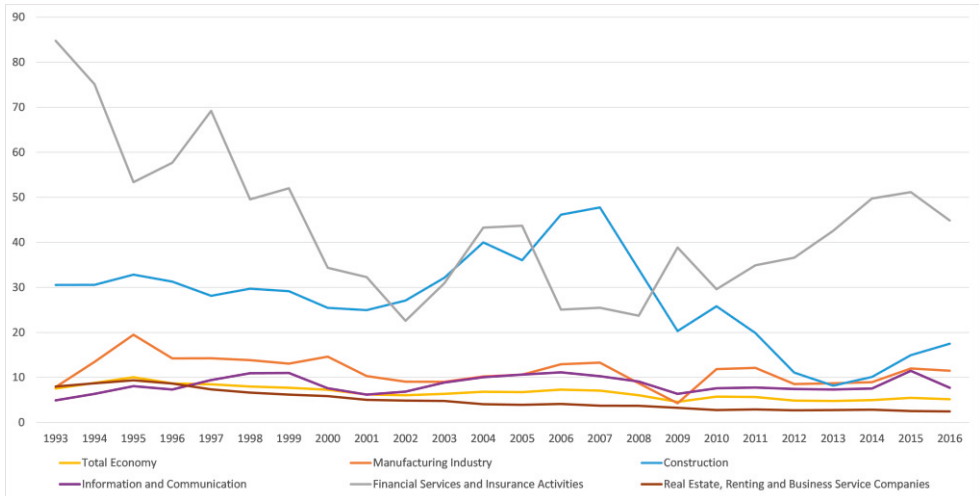
Figure 7.23 Sweden - Total and Sectoral Profit Rates (Shaikh-Inspired)
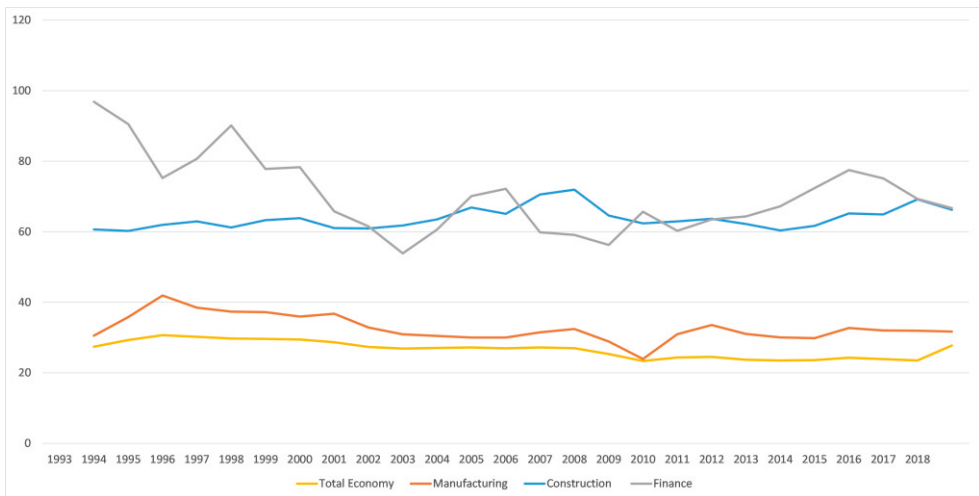
Figure 7.24 Sweden - Total and Sectoral Profit Rates (Roberts-Inspired)
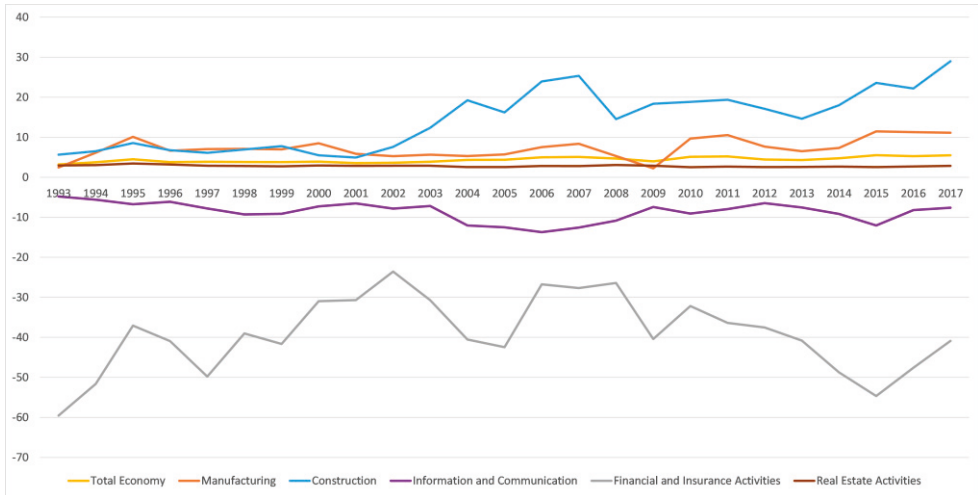
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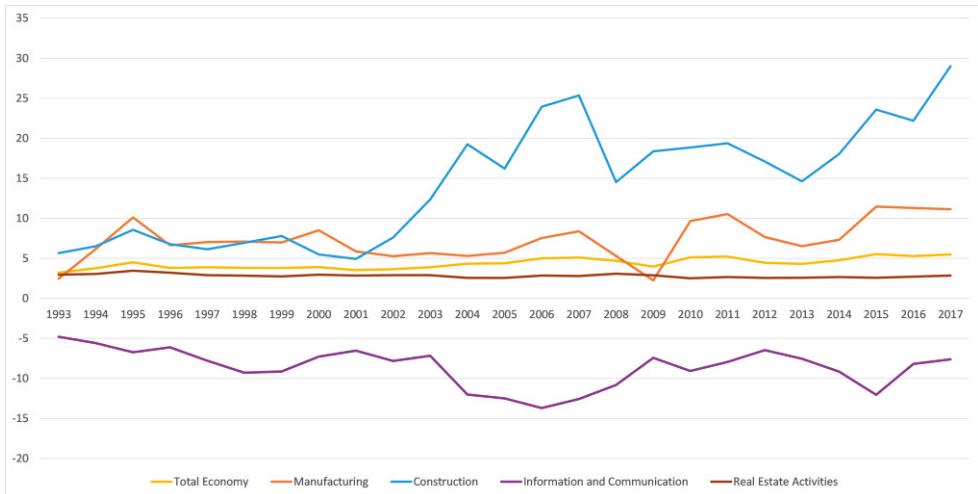**Figure 7.25** Sweden - Total and Sectoral Profit Rates (Kliman-Inspired)

Figure 7.26 Sweden - Total and Sectoral Profit Rates (Kliman-Inspired)–Excluding Financial and Insurance Activities

The manufacturing profit rate follows the whole-economy trend in all three approaches, with a peak in 1995 and a steady decline afterward until the Great Recession. The construction sector's profit rate began to rise by the end of the 20th century and peaked in 2007 before the crash. Both Figures 7.23 and 7.24 show that the construction sector's profits grew even faster than the financial sector's on two occasions (2003 and 2007) and then declined until 2013. The difference between construction and manufacturing sectors' profit rates indicates the ceiling of land rent at the macro-level (indicating the presence of absolute rent). This gap expands by the end of the 20th century and until the Great Recession. Then, it began to contract

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in 2007, no matter the methodology. It is also interesting to note that in Kliman's method (based on constant/historical costs), construction profit rates are at or below the manufacturing rates throughout the 1990s. Most visibly during the peak of 1995 and before the dot-com crisis, they even fall below manufacturing profit rates.

The increasing profit rates for the construction sector drive fluctuations of new constructions, particularly during the rise of new constructions since the early 2000s (Figures 7.10-7.15). Similarly, the construction sector's persistently low rates of profit throughout the 1990s explain the higher conversion activity rate. The analyses presented by Clark and Gullberg (1991; 1997) and Clark (1995a) are silent about these macro-level indicators that contextualize the agential relations with which they explain the transformation of the Swedish land policy.

Crucial to the SMLR is capital switching. The notion of capital switching is essential to the analysis in that it aims to explain rent creation and appropriation structurally and in relation to the rest of the economy. The SMLR does not offer analytical tools for measuring capital switching and its contextual pattern. Average metrics for profit rates would not help much either, as they only provide explanations retroactively. That is why Shaikh's notion of incremental profit rate (gross profit divided by lagged nominal gross investment) is crucial in concretizing and temporally visualizing capital flow between sectors.

Figure 7.27 shows incremental profit rates for different branches of the Swedish industry, plus finance, insurance, and real estate businesses since 1993. The data for gross profits (gross operating surplus) is unavailable before 1993. Figure 7.28 shows a simplified version of Figure 7.27 and excludes different branches of the manufacturing sector. The patterns explain the most recent shift in investment. New investments tend to switch to more profitable sectors rapidly. However, this turbulent inter-sectoral movement is still happening at the macro (national) level. It does not mean all individual capitals at the micro-level would necessarily follow the switching. Besides, and in contrast to the SMLR, incremental profit rates denote that capital switching happens not only between the manufacturing and construction (or even financial) sectors. Switching between different branches of the manufacturing sector is just as expected, if not more. That was the case for ICTs in the second half of the 2000s (Figure 7.28). Overall, incremental profit rates governing the most recent investment choices explain the capitalist competition's turbulent character.
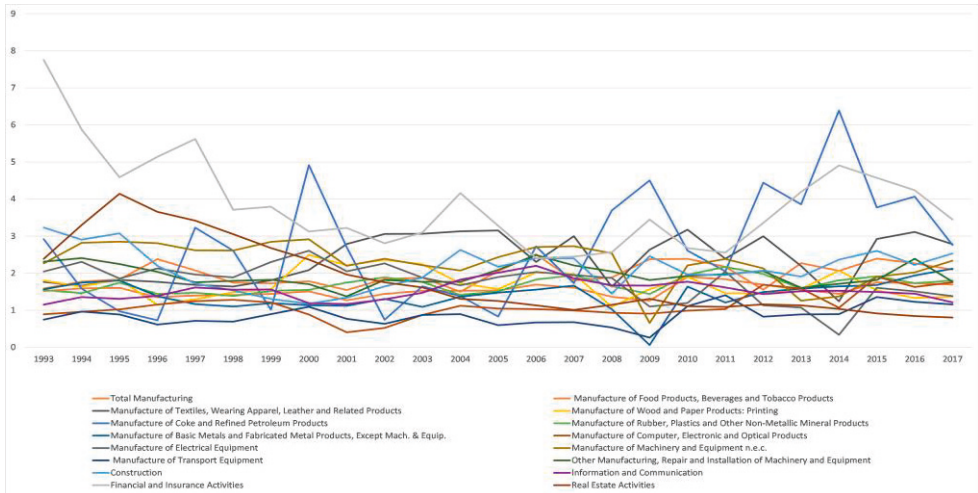
Figure 7.27 Sweden - Incremental Rates of Profit by Industry (Including Manufacturing Branches)
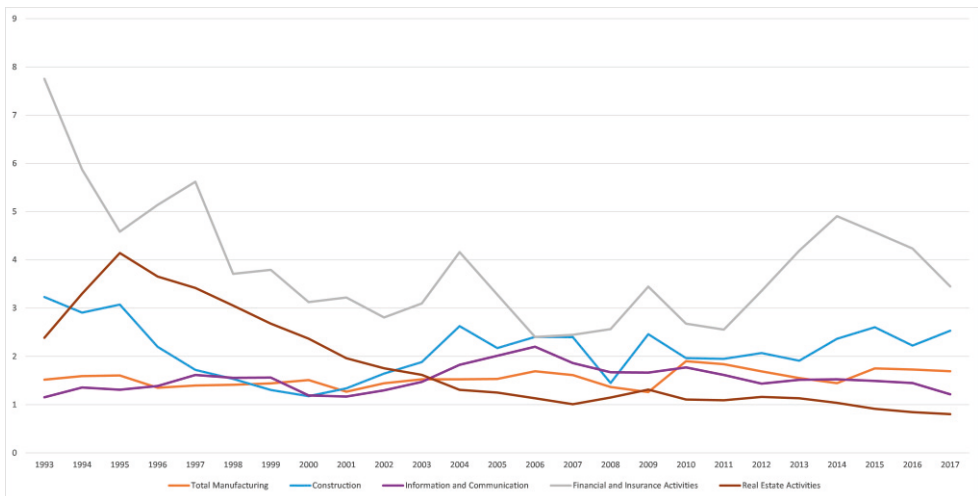

Figure 7.28 Sweden - Incremental Rates of Profit by Industry (Excluding Manufacturing Branches)

Figures 7.29, 7.30, 7.31 show Swedish incremental profit rates for the total economy, non-financial, and financial sectors. Figure 7.31 shows that the patterns fit the previous argument that both the Swedish economy and its manufacturing sector began to contract in the mid-1980s, expanded between 1990 and 1995, and declined ever since. Comparing Figures 7.28 and 7.31 shows that a sizeable chunk of non-financial corporations' profits came from the construction sector.
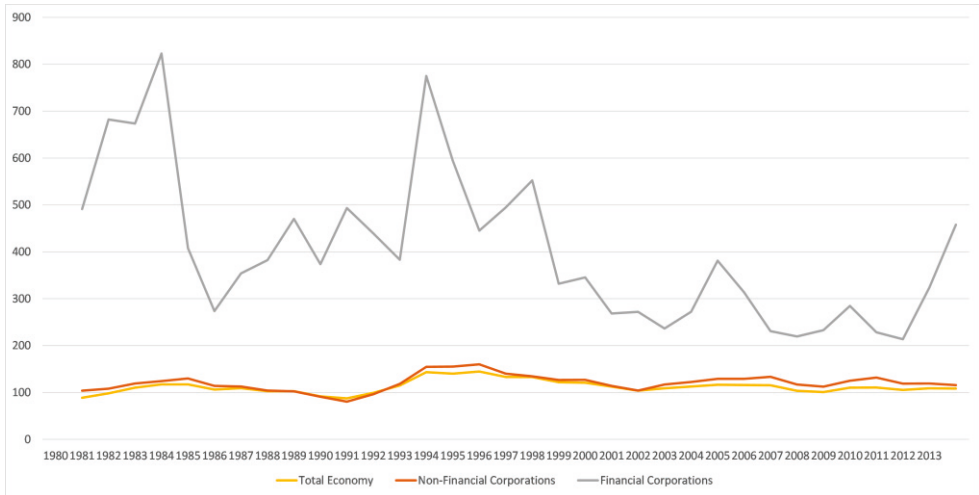
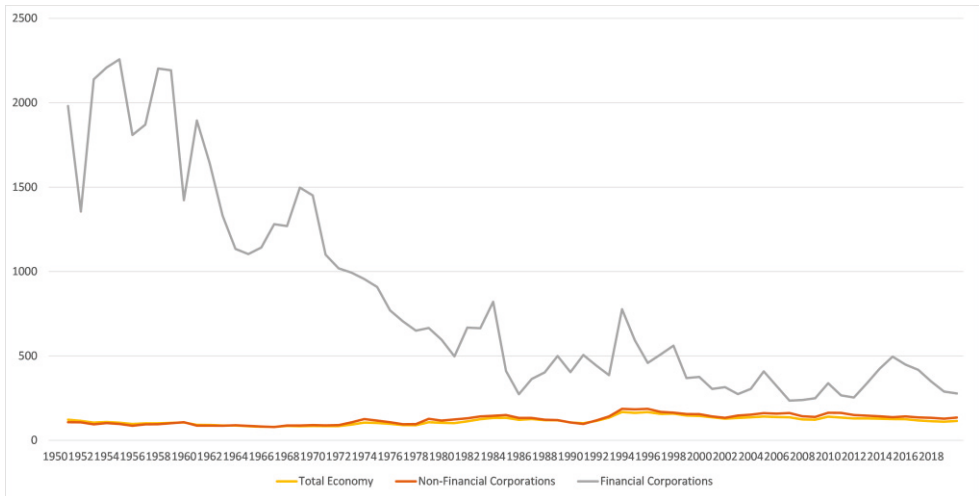**Figure 7.29** Sweden - Incremental Rates of Profit by Sector 1980-2019

Figure 7.30 Sweden - Incremental Rates of Profit by Sector 1950-2019
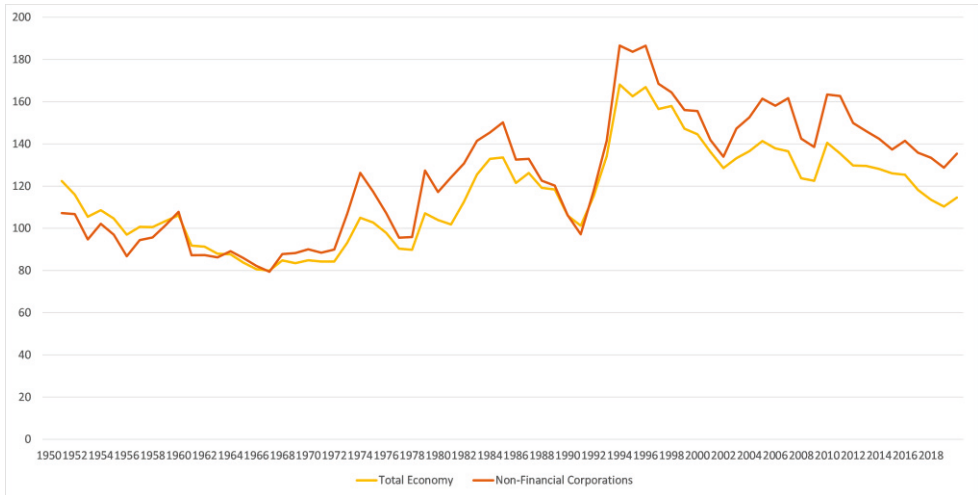
Figure 7.31 Sweden - Incremental Rates of Profit by Sector 1950-2019 (Excluding Financial Corporations)

Let me now present the data for the Swedish sectoral organic composition of capital. Figure 7.32 shows that the construction sector has enjoyed a relatively stable fixed capital-labor costs ratio compared to the manufacturing sector since 1993. This data shows the generally labor-intensive character of the construction sector and shows why the construction sector could still generate relatively high rates of return (for instance, between 2003-2007) without investing heavily in fixed assets and machinery in the presence of absolute land rent.
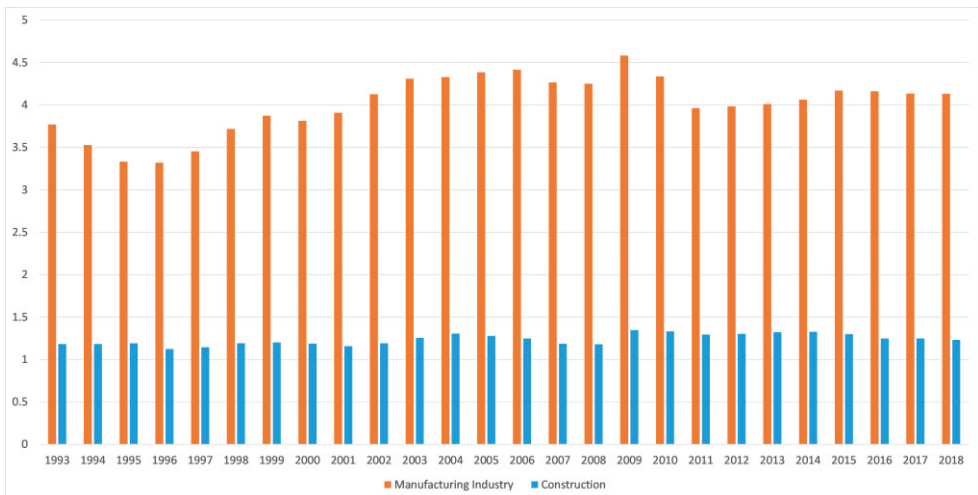

Figure 7.32 Sweden - Sectoral Organic Composition of Capital 1993-2018

None of these macro-level variables matter for urban geography unless one could demonstrate their relevance and influence on changes in built environments at the spatial level. And the notions of differential rent I and II serve this purpose. In geographic research, rent gap theory was proposed to (at least) partially explain this connection and analyze fluctuations in land prices in terms of broader economic structures.

The aim of rent gap theory, clarify Clark and Gullberg (1991, 492), is to explain the urban renewal processes as "effort[s] to develop the full resources of the area in order to bring actual land rents up to the level of potential land rents". This "gap between actually realized land rent and potentially realizable land rent arises and expands when the fixed capital on a site sets limits on its type and intensity of use and therewith its actually realized land rent, while growth on the urban scale continuously contributes to the site's increasing potential land rent" (ibid. 493). All this happens in the context of depreciating building values over time.

Clark and Gullberg (1991, 497-498) argue that rent gaps drive investment choices of property owners during the period between development and redevelopment "at specific locations". To connect the micro-level of analysis that rent gap theory offers to the macro level, they employ the long swings model (in construction activity) "to explain changes in the intensity of just such investments at aggregate levels" (ibid. 498) and determine "the pace of depreciation cycles on specific urban sites" (ibid.). The timing of rent gap itself is measured in terms of a "period between development and redevelopment" (ibid.), an indicator of which is the time difference between completion of a building and its demolition, e.g., "the ages of buildings demolished" in a certain period (ibid.). "[R]ent gaps constitute a mediating mechanism in the tendency towards overshooting demand for various forms of fixed capital in the built environment" (ibid. 499).

Clark and Gullberg (1991) explain rent also in terms of relative space and, in effect, institutional relations that limit or accelerate investment in the period between permit and completion. Elsewhere Clark and Gullberg (1997, 252) use more quantified measurements for rent gap expansion in terms of "slower increase (or real decrease) in land values" in an area "relative to the rest of the city" and "greater increase in land and property values in the renewed area, relative to change in the city on the whole" for rent gap's closure (taken from Clark's (1987) studies on Malmö). For land values, they use deflated "tax appraisal values" using the consumer price index and then "corrected [tax appraisal values] by aggregate regional price/appraisal coefficients" (ibid.). The results then are compared with the two periods of development and redevelopment to measure the gap. In the case of Lower Norrmalm, they argue a decline in land values in the area began around 1932 until the mid-1950s as the gap expands. Following the comprehensive plan implementation, land values began to rise around 1965 as the gap began to close.

The expansion and closure (or the making and taking) of rent gaps depend on two interrelated sets of developments in the surrounding area—first, spatial change in terms of relative space, and second, regional economic development determining

the type of investments. In the case of Lower Norrmalm, Clark and Gullberg (1991; 1997) refer to massive public investment in the transport network as a determining factor. They (1997, 259) write, "decisions on the geography of transport infrastructure investment involve the exercise of power, with intended or unintended consequences on property values, in order to increase accessibility here or avoid the discomforts of traffic there". These infrastructure investments include expanding roads, constructing a car tunnel, the underground, and the like. Clark and Gullberg (1991, 496) single out tunnel constructions for governing "to a great extent the time-space progression of renewal". Tunnels "gave the process an air of inevitability, with every land acquisition, evacuation, demolition, construction and assignment of premises being included in temporally and functionally dependent chains of events" (ibid.).

These spatial developments are crucial as "both population and the value of fixed capital in the built environment surrounding a site are major determinants of the site's potential land rents" (ibid. 499). And they are related to macro-level developments as "local upswings in population and construction activity, through their impact on rent gaps, tend to generate even more investment in the built environment, leading to an overshooting of actual demand and subsequently a downswing in construction activity" (ibid. 499). The Lower Norrmalm project "takes place during the car and underground age of Stockholm's development" (Clark 1995a, 88). "[T]he 1957 and 1963 peaks in building permits and the 1960-62 and 1966 peaks in completions are physically and immediately related to the construction of the underground, and the 1969 peak in permits and the 1970 and 1978 peaks in completions are directly related to the construction of Klara tunnel for car traffic" (ibid.). There are indirect impacts too. Clark (ibid.) explains, "the increased accessibility made possible by the diffusion of the underground network and automobilism throughout the city region entailed increased potential land rent in, and thus increased economic pressure to reinvest in, the central business district".

Next stop, regional economic development. In Lower Norrmalm between 1960 and 1975, Clark and Gullberg (1997, 258) report a dramatic decline of 81 percent in industrial employment. Commercial employment almost doubled (to 98 percent) after the renewal, while industrial employment fell to zero (ibid.). Office and commercial floor space increased 2-3 times as the number of service and finance companies almost doubled (ibid.). Clark (1995a, 89) reports a dramatic decline (20 percent) in industrial employment, while service-providing firms' employment increased by 202 percent in the Stockholm region between 1950 and 1980 during the slow but steady semi-de-industrialization of the city and the region. The data indicates the increasing demand for offices and commercial properties in the area after the renewal.

An alternative explanation for local developments in Lower Norrmalm would point to investment dynamism in terms of differential rent I and II (as extensive and intensive investment strategies). The application of differential rent I and II does not negate the application of rent gap theory. As we have seen in Chapter 4, Clark

(2004) sought to complement rent gap theory with the differential rent I and II interplay. Differential rent I and II, however, have one potential advantage: they could explain the process in shorter and more precise periods. Rent gap theory adequately explains the decline and increase in land values in specific locations. But it does not explain the point zero (t = 0) of the rent level. A major problem of most price-level analyses is that they do not explain why prices stand at a given number. And rent gap theory is no exception.

Furthermore, it does not explain the timing of expansion or closure of the gap with economic indicators beyond building values, just as the long swing theory does not explain why the construction activity rises or falls at a certain point in time. Both of these two issues required a macro-level and historical analysis. Studies by Clark and Gullberg (1991; 1997) and Clark and Runesson (1996) explain the rising level of potential rents with the municipal planning monopoly and regulations escalating the public-private conflict, and the declining capitalized rents with downswings of construction activity, shaped by growing "state of insecurity" among developers and property owners (e.g., Clark and Gullberg 1991, 501). And they measure rent levels with microeconomic tax-adjusted sale prices of land and buildings. In other words, they cannot explain the structure's mechanism without the agents' actions. More importantly, unlike Harvey, they do not relate rent creation and appropriation to the (macro) dynamics of capital. The TILR, in contrast, advances a macro-level, structural explanation (using inter-sectoral rates of return to measure rent rates and ceilings) and historical inter-sectoral dynamics governing rent creation and appropriation processes.

Chapter 8. Empirical Study 3: Scale, Technology, and the Iranian Housing Sector

This chapter presents my application of the TILR, analyzing the Iranian housing sector and its relation to the rest of the economy. The analysis incorporates the concept of absolute rent as a structural mechanism to govern capital flows into investments in urban land using an inter-sectoral and multi-scalar framework anticipated in the TILR. Such a contextualized analysis is required to challenge the conventional approaches that assume a clear line between macro-level (global) similarities and micro-level (local) differences. The case of Iran is significant, for it adds complexity to the spatiotemporal analysis of the aggregate and inter-sectoral rates of return, central in measuring the extent and patterns of land rent creation and appropriation in the TILR. Existing analyses tend to explain the case of Iran with exogenous mechanisms, including the backwardness of the political and government systems, the underdevelopment of the political and economic capitalist relations, a lack of expertise, and a restricted influence of technocrats due to political interferences of undemocratic and religious forces. In that sense, the chapter proposes a (structural) alternative approach by drawing attention to the ramifications of the actually-existing Iranian capitalism and its economic and geopolitical constraints. The chapter encompasses a summary of my three studies (two of which co-authored) on gentrification, public housing, and spatial inequalities in urban Iran (Farahani 2013; Farahani and Yousefi 2021; Yousefi and Farahani 2019).

I begin with a brief historical introduction to urban Iran. What makes the Iranian housing sector curious compared to many advanced capitalist economies, at first glance, is a continuous lack of direct involvement of central and local governments in implementing a systematic housing provision for low-income and de-commodified housing. Housing has been systematically left out of state regulations and control, facilitating an extended private control of the sector with market forces (Farahani and Yousefi 2021). This point has been reflected in national accounts and central and local policy documents on land, investment, and housing expenditure in most of the 20th century (Bharier 1971; Raisdana 2001; Sadvandian and Etehadieh 1989; Tehran Municipality 2019). In response, the army and industries were to take over financing, planning, and development of company towns and the like to

accommodate their employees, including most working families (Yousefi and Farahani 2019). That is not to say that the state has been neglecting such a potentially explosive social issue. "[T]he common practice of most governments over the last five decades", however, "has been to subsidize land and construction materials (including concrete, girder, and so on) for residential development to private developers to increase lower-cost constructions, balance the supply and demand, and potentially decrease housing prices to solve the housing question indirectly" (Farahani and Yousefi 2021, 46). The central state's disinterest in investing in housing is evident in the government's final consumption expenditure (1960-2013). The highest values are reserved for defense and police, followed by economic affairs and the ideologically charged category of social and cultural affairs (Figure 8.1[17]). Except for two short periods of the early 1970s (mass urban migration following the land reforms of the early 1960s) and the early 1990s (the aftermath of the Iran-Iraq war of 1980-1988), housing has been the lowest category.
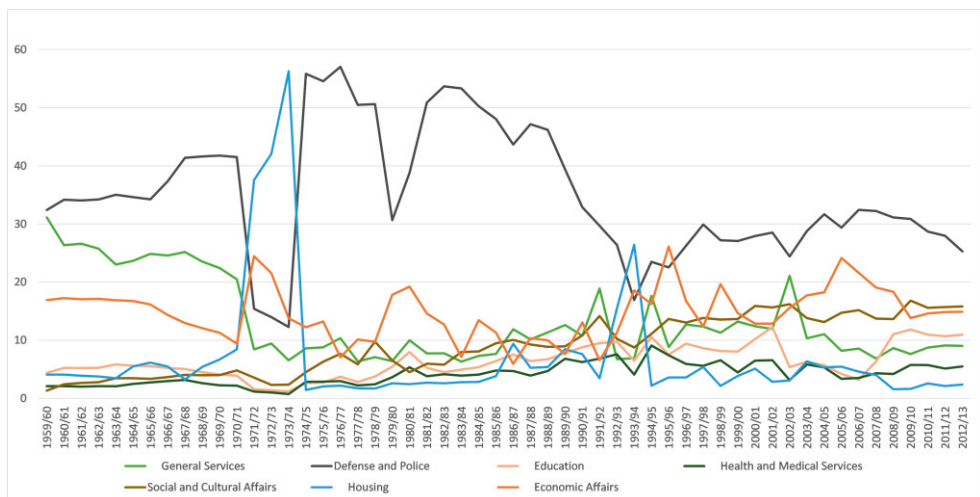
Figure 8.1 Iran - Government Final Expenditure by Type (%)

Residential land plots are mostly privately owned, and rent and property values are mainly market-determined (i.e., via supply and demand mechanism). Dwellings are primarily developed (then sold/rented out) by single-dwelling owners (as individual owners) and small-scale developers (ibid.). A handful of medium and large-scale developers are involved in the owner-occupied market (Farahani and Yousefi 2021; Yousefi and Farahani 2019). "Dwelling owners are solely responsible for maintenance [through informal verbal agreements between owners], which,

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[17] I used official data (e.g., CBI, SCI) for all figures in this chapter, mainly with my calculations. To avoid repetition, I present the detailed description of the sources (with tables, lines, etc.) in Appendix 3.3.

particularly with rentals, has proven problematic, as it has repeatedly been creating tensions between tenants and single-dwelling owners" (Farahani and Yousefi 2021, 46). Limited state regulations on the housing market are partially responsible for high aggregate official rates of return in real estate business (consistently around 15-20 percent in the last 30 years) and risky, speculative investments that led to shoddy constructions (CBI 2013). However, such an analysis is unable to explain why such a plight exists in the first place.

The urban population stands at 73.4 percent of ca. 82 million (The World Bank 2018). The national rate of tenancy has remained around 15-25 percent in the last five decades (SCI 2014), while the rate of owner-occupancy declined from 70 percent in the mid-1970s to 50 percent (SCI 2016-2017). The rest is classified as "dwellings for government and military employees" (ibid.). More important, "an overwhelming majority of tenants are working class (ca. six million households)" (Farahani and Yousefi 2021, 46). Around 40 percent of household expenses in the urban areas are dedicated to housing; the number is 50 for Tehran (ca. two times the minimum wage) (SCI 2014; CBI 2017a; TMICTO 2014-2015). Independent estimations are understandably much higher (with at least 70 percent) for low-income working families (Farahani 2013; Raisdana 2001; Yousefi and Farahani 2019).

8.1.   Labor Relations, and the Aggregate Rate of Profit

"Housing has been a predominantly private sector in modern Iran, with high levels of individual (even atomistic) ownership, development, sale, and renting out of land and dwellings" (Farahani and Yousefi 2021, 50; also, Behdad and Nomani 2009, 97; Behdad and Nomani 2011). Two distinctive features characterize the sector: a) the absence of active state regulations culminated in the absence of any public (low-income) housing provisions, and b) the super-exploitation of workers, not least in the construction sector (Farahani and Yousefi 2021, 50; Yousefi and Farahani 2019, 3).

Both manufacturing and construction sectors have been struggling with low economies of scale over the last few decades. "The difference between the two sectors is that low economies of scale in housing and construction is to a greater extent be overcome through incorporating low-skilled, cheap, almost entirely unorganized, and largely (including illegal) migrant and seasonal labor [at around 70 percent]" (Farahani and Yousefi 2021, 50; also Behdad and Nomani 2011; Raisdana 2001; Sepehrdoust 2013, 70; Zakeri et al. 1996, 419).

Even in the highly moderated official data, "[t]he average wage level of a low-skilled construction worker has constantly been around 30 percent below the national minimum wage over the last two decades" (SCI 2019; Farahani and Yousefi 2021, 50). The labor-intensive character of the Iranian housing sector "with a low

level of mechanization and heavy reliance on cheap labor and long working days"
is facilitated by the dominance of verbal contract and the dearth of labor benefits
(including health insurance, unemployment, pensions, and so on) (Farahani and
Yousefi 2021, 50). Only in 2016, "the number of unskilled workers in the
construction sector was ten times higher than high-skilled workers, and the share of
high-skilled workers in total employment in the construction sector was only four
percent (SCI 2016). The share of high-skilled workers in the manufacturing
industry, in contrast, has constantly been around 40-45 percent over the last two
decades (SCI 2015)" (Farahani and Yousefi 2021, 50).

As Figure 8.2 shows, the organic composition of capital (as net capital stock
divided by compensation of employees) in the construction sector has been
significantly lower than in the manufacturing sector. The data for the compensation
of employees is only available for the 13 years presented in the graph. But the trend
is consistent with the rest of the data I use and present in this chapter. Crucial is the
relation between the organic composition of capital and technology. For Marx, the
organic composition of capital is to be understood in terms of the use of labor-
efficient technologies. The long working days in Iranian industries (up to 2-3 shifts
a day) (Farahani 2013) indicate persistently low rates of profit (see Figure 8.7). That
is partly due to difficulties in importing frontier technologies, in the absence of
which the organic composition of capital fluctuates much less frequently than it
would, had labor-efficient technologies been acquired more easily. I will discuss
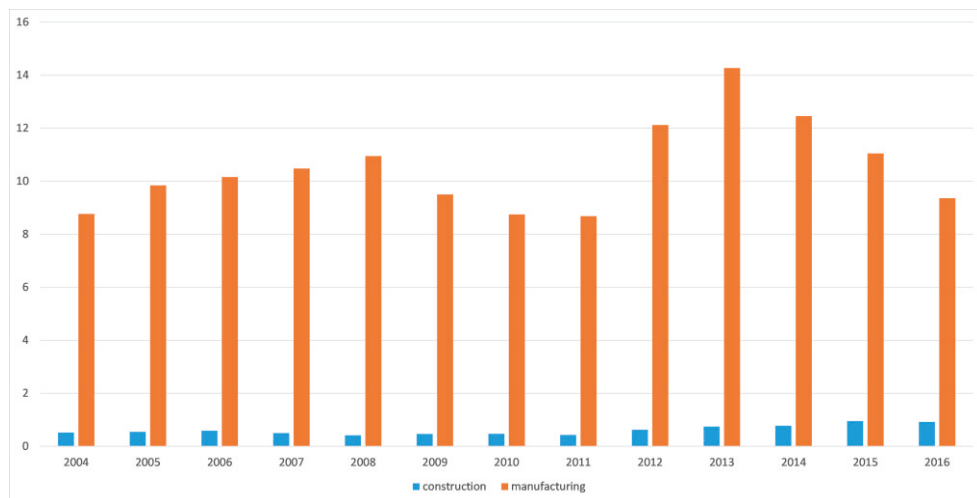this further in Section 8.3 below.

Figure 8.2 Iran - Organic Composition of Capital

We get a better picture if we triangulate this data with the sectoral data for gross
investment in machinery. Figure 8.3 shows this data at constant prices, and Figures
8.4, 8.5, 8.6 show them at current prices. In both cases, regardless of the calculation

method, we see a general tendency to invest less in the construction sector machinery. That is consistent with the organic composition data. And as Figures 8.4, 8.5, 8.6 show, as the economy entered the crisis in 1974, the two began to diverge, with a dramatic takeoff by the late 1990s.
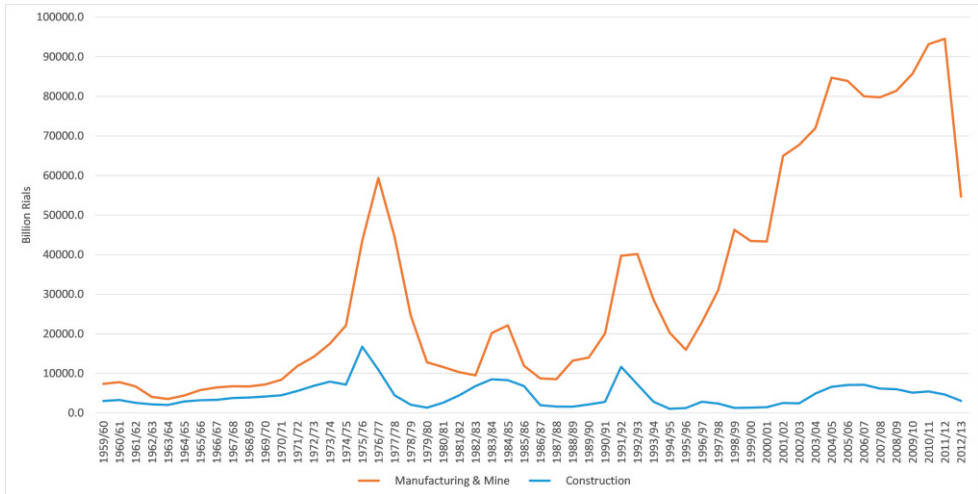

Figure 8.3 Iran - Private Sector's Gross Fixed Capital Formation in Machinery by Sector, Constant 2004/2005 Prices
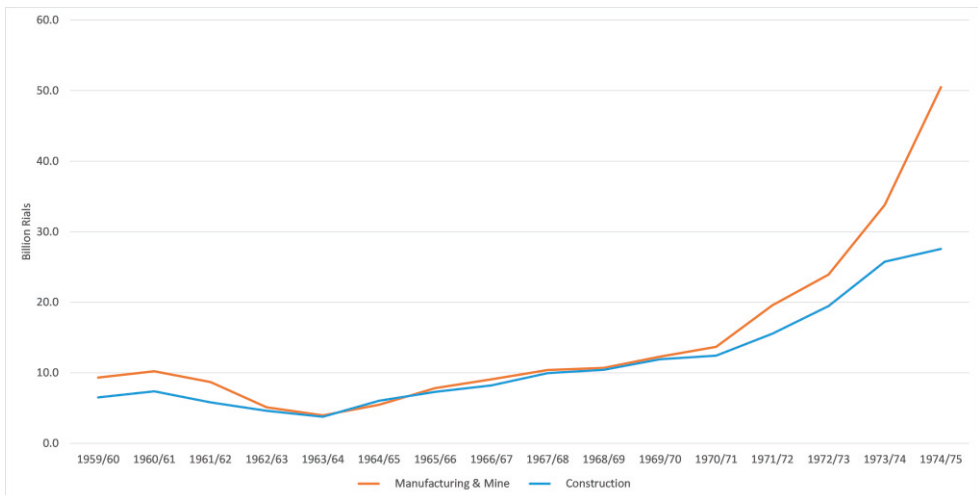

Figure 8.4 Iran - Gross Fixed Capital Formation in Machinery by Sector, Current Prices 1959-1974

Figure 8.5 Iran - Gross Fixed Capital Formation in Machinery by Sector, Current Prices 1974-1990
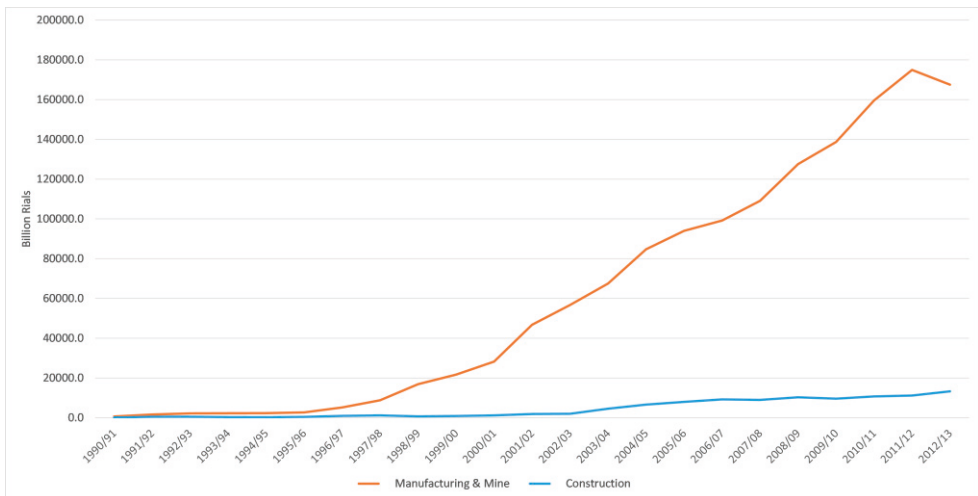
Figure 8.6 Iran - Gross Fixed Capital Formation in Machinery by Sector, Current Prices 1990-2013

Similarly, the low aggregate rate of profit (Figure 8.7) is to be analyzed contextually. As Figure 8.7 shows, profit rates (as net operating surplus divided by net capital stock in current costs) began to fall in 1974, with two slight recovery periods in 1990-1993 and 1997-2004. But overall, the trend has been downward over the last 40 years, with a crucial decline in the late 1970s (following the 1979 Revolution).
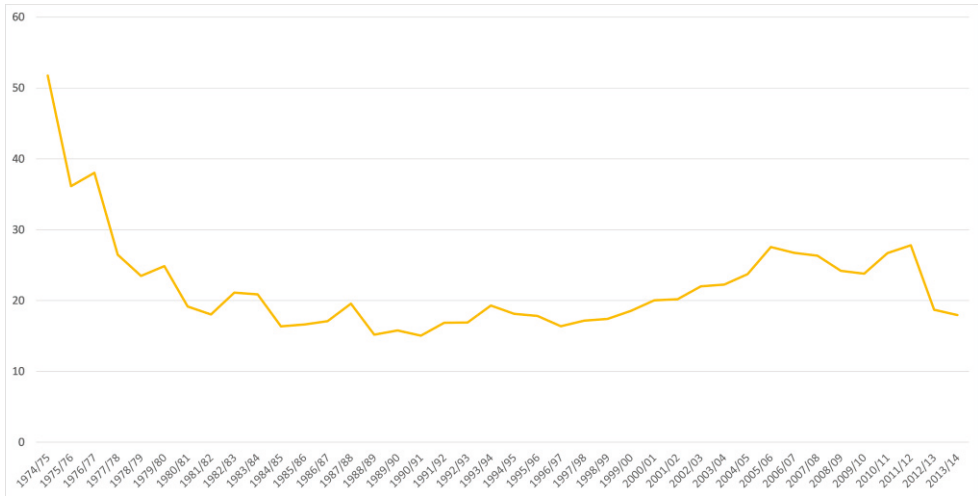
Figure 8.7 Iran - Aggregate Rate of Profit 1974-2014
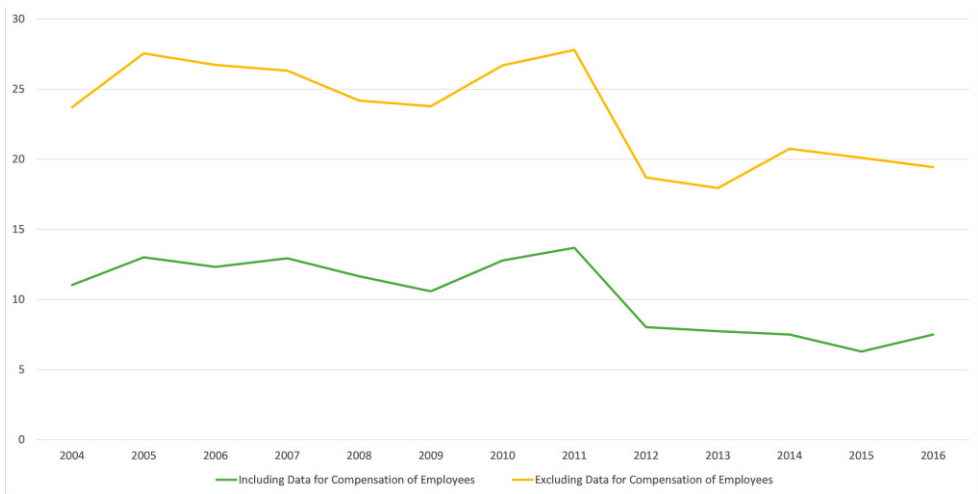
Figure 8.8 Iran - Aggregate Rate of Profit with/out Compensation of Employees

Again, it should be clarified that the data for compensation of employees is only available for 13 years. But that only means the values are to be assumed to be lower. A more accurate calculation for those 13 years is shown in Figure 8.8. Note that as downward as the overall trend is, the level of the profit rate compared to international levels is not very low (Roberts 2020b). This prompts the question: what has been keeping the profit rate high? And the answer is to be found in an inter-sectoral comparison. As Figure 8.9 shows, not just construction profits compensate for almost every fall in manufacturing profits (including the crucial decline in the late 1970s), they are responsible for the two recoveries in the early

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1990s and 1997-2004 (Figure 8.10). In two periods (recovery in the late 1980s and a fall since 1997) for manufacturing profits, trends of construction profit rates were constant and upward. These points signify the differential profitability between these two sectors that points to the presence of absolute rent.
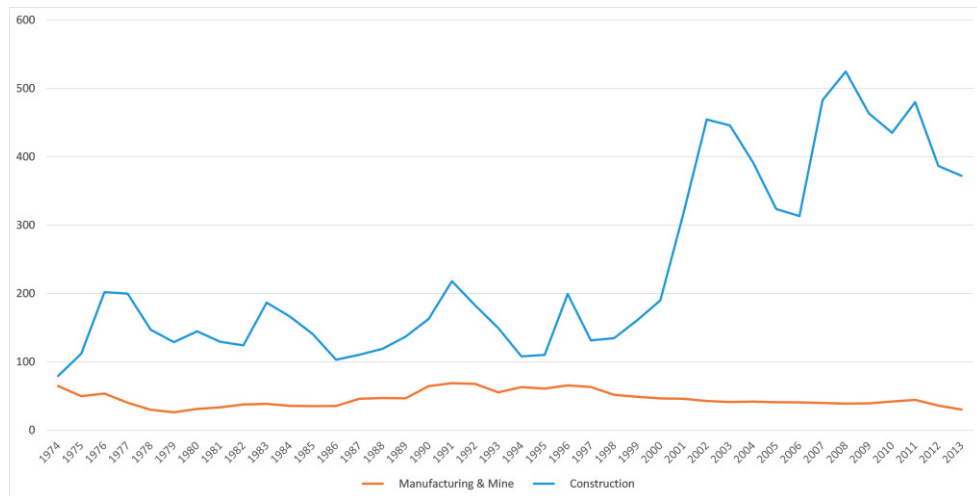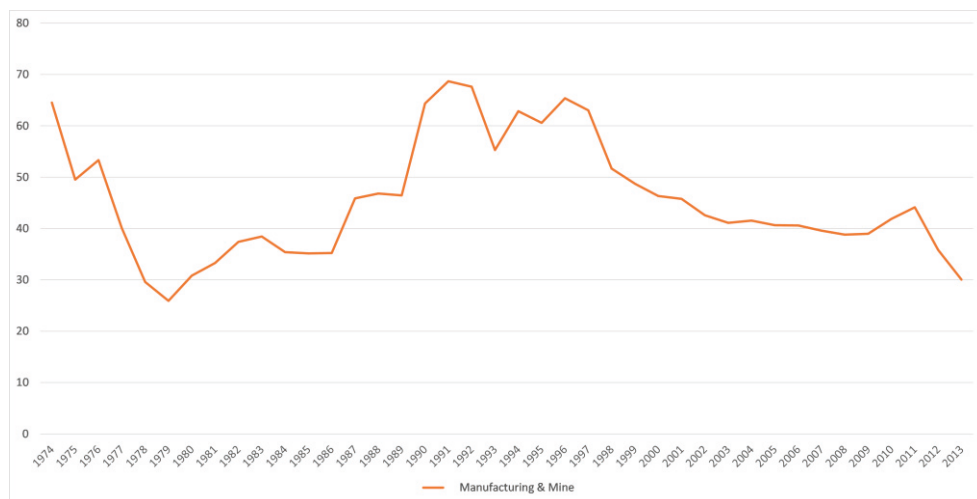

Figure 8.9 Iran - Sectoral Profit Rates 1974-2013

Figure 8.10 Iran - the Manufacturing Profit Rate 1974-2013

These figures, it is to be noted, are to be cautiously taken. My calculations of net profits are unenviably inaccurate for the absence of sectoral depreciation and compensations' data for the entire period. A triangulation of this data and

investments (presented in Figures 8.15 below), however, cautiously corroborates my overall assessment.

An accurate calculation of the sectoral profit rates is only available for an arbitrary sequence of seven years, in which sectoral data for compensation of employees and depreciation are both available. The results, as shown in Figure 8.11, are again generally consistent with the less accurate ones. Here the data shows that while in both 1986 and 1999, manufacturing profits overtook construction profits, since the beginning of the 21st century, the difference between the two sectors ballooned.
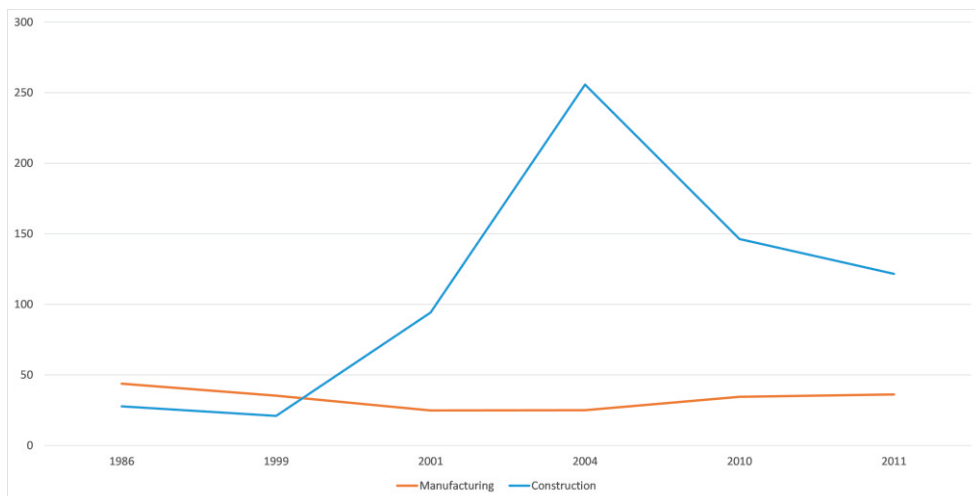

Figure 8.11 Iran - Sectoral Profit Rates, Selective Years

As for capital switching, again, the data lacks values for compensation of employees. But overall, it is consistent with the other data (Figures 8.12, 8.13, 8.14). Here, we see a more turbulent portrait of the situation. During the first phase of the modernization process in the 1960s, magnitudes of profits in the two sectors are much closer. However, in the late 1970s, as manufacturing profits began to fall, construction profits began to rise abruptly (Figure 8.13). That is partly due to a rapid rise in migration to Tehran and a few other large cities in the 1970s (Dehesh 1994). This trend is generally the case, except for three periods: 1986-1991 and 1993-1998 when they both rise, and 2002-2008 when they both fall. However, first, even in those three periods, the difference between the two rates is significant. And second, at least in downward cycles, real estate profits had been rising (Figure 8.14). This latter case is the case of speculative investment in residential markets.
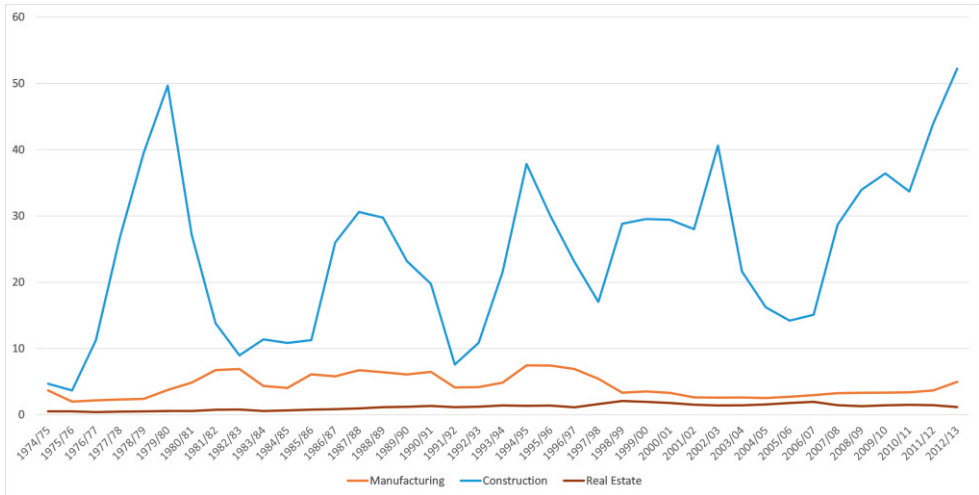
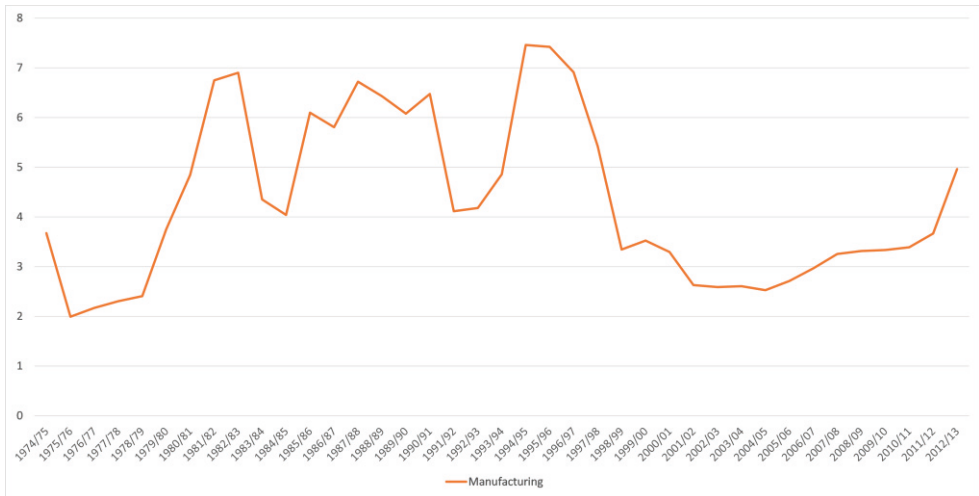**Figure 8.12** Iran - Incremental Profit Rates 1974-2013

Figure 8.13 Iran - Incremental Profit Rates, Manufacturing Sector 1974-2013
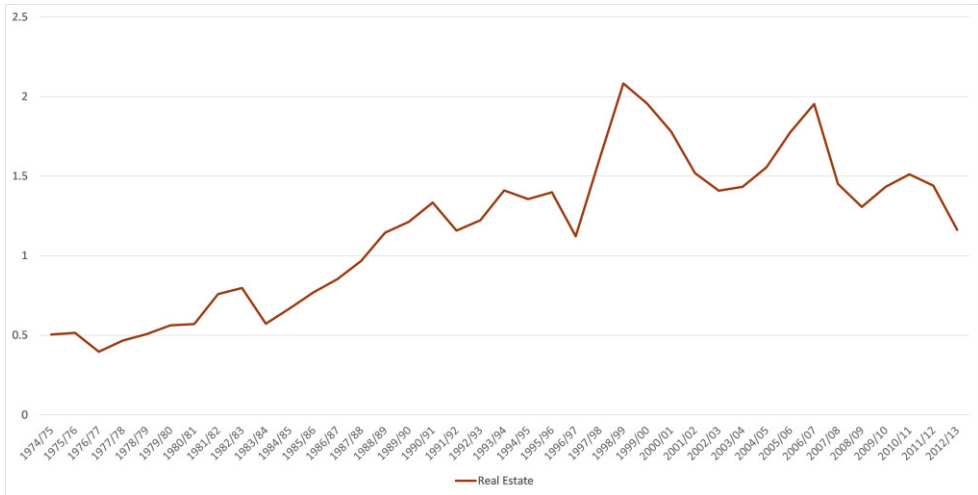
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Figure 8.14 Iran - Incremental Profit Rates, Real Estate Business 1974-2013

Let us now contrast these data with investment data and see their impacts on investments. Figure 8.15 shows that the fluctuation in sectoral profit rates corresponds to fluctuations in gross investment, and investors generally prefer investing in construction to machinery.
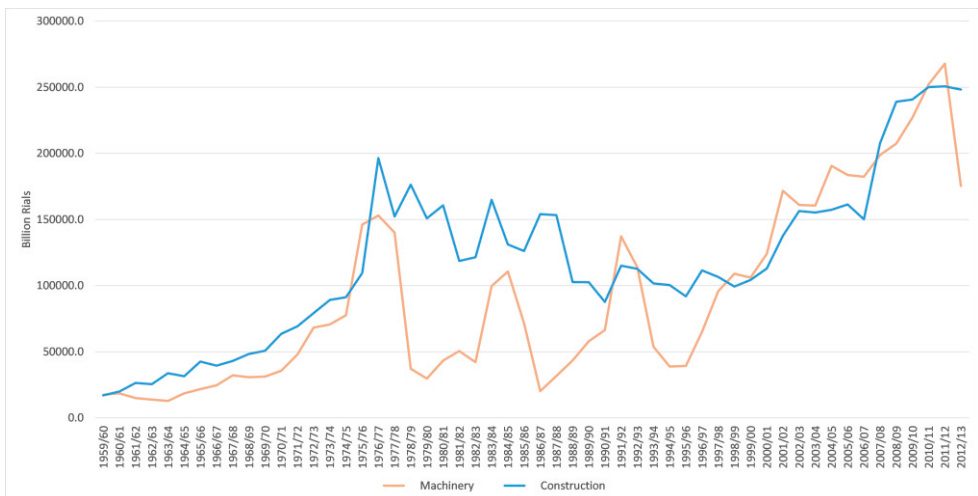

Figure 8.15 Iran - Private Sector's Gross Fixed Capital Formation in Machinery and Construction 1959-2013, Constant Prices (2004/2005)

The new (private) construction data in Tehran and all urban areas (Figures 8.16, 8.17) follows a generally upward trend. However, all three dramatic increases (the early 1980s, the early 1990s, and the early 2000s) correspond to the respective peaks in construction profits.
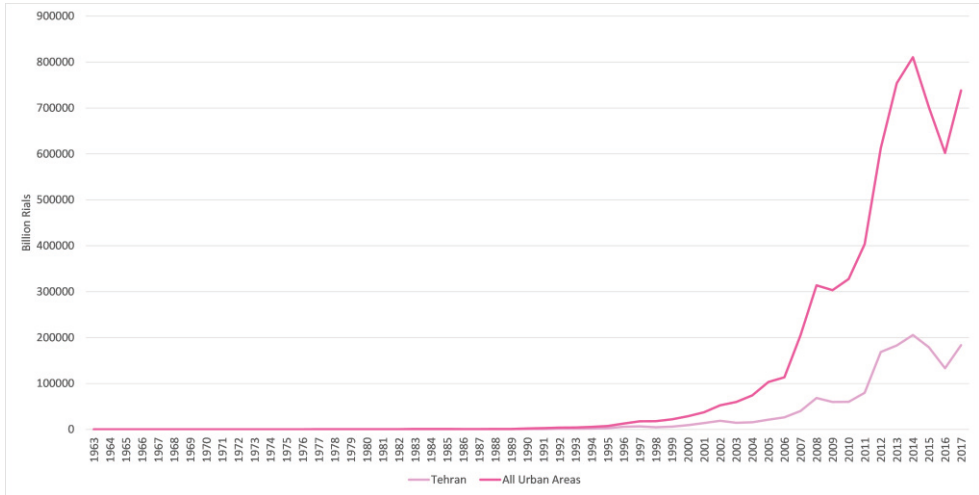
Figure 8.16 Iran - Private Sector's Investment in New Buildings in Urban Areas 1963-2017
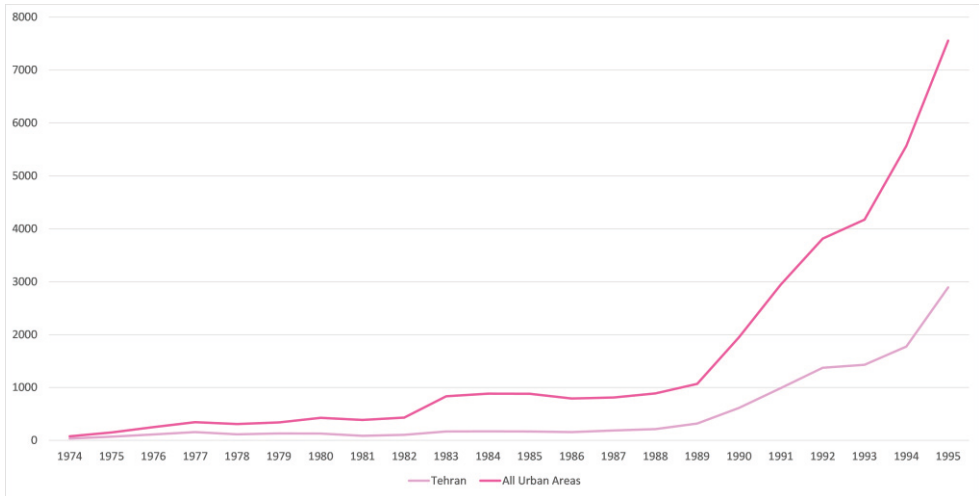

Figure 8.17 Iran - Private Sector's Investment in New Buildings in Urban Areas 1974-1995

Similar patterns (with similar peaks) can be observed for both construction permits (Figures 8.18, 8.19) and completed buildings (Figures 8.20, 8.21).
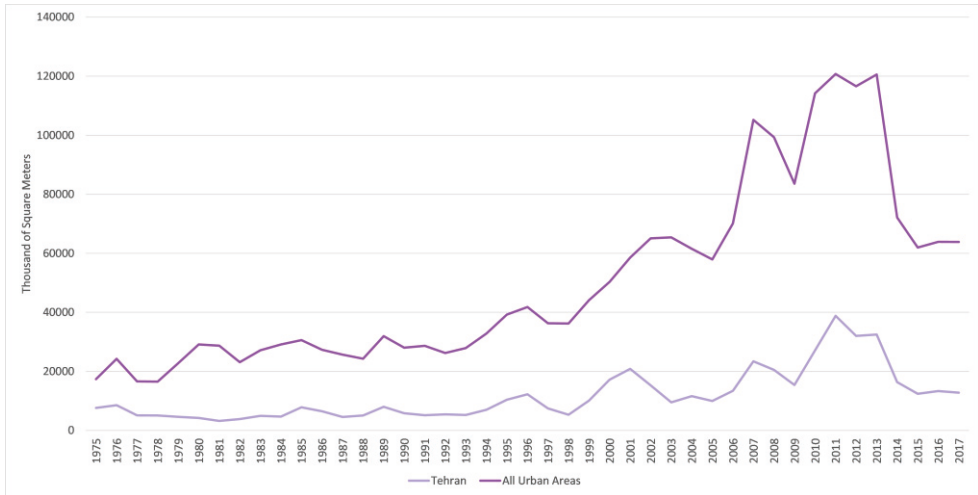
Figure 8.18 Iran - Construction Permits in Urban Areas 1975-2017, Thousand of Square Meters
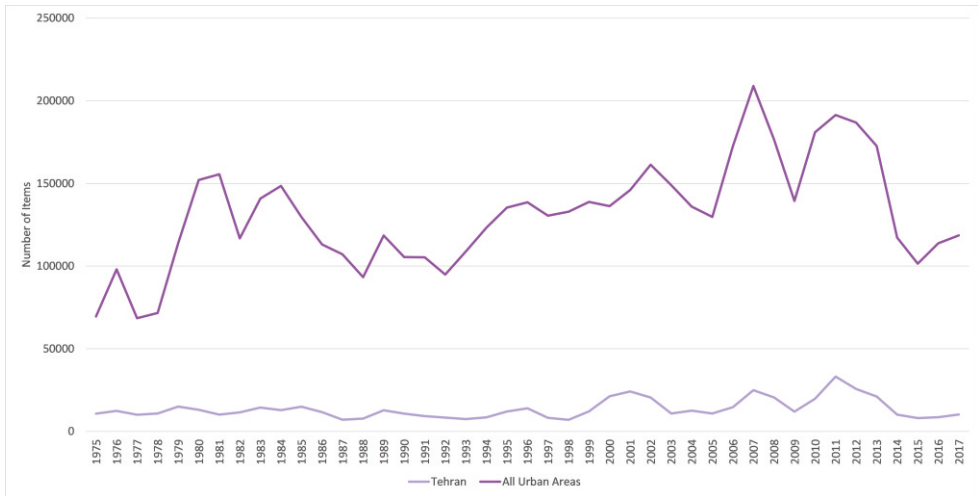

Figure 8.19 Iran - Construction Permits in Urban Areas 1975-2017 Number of Units
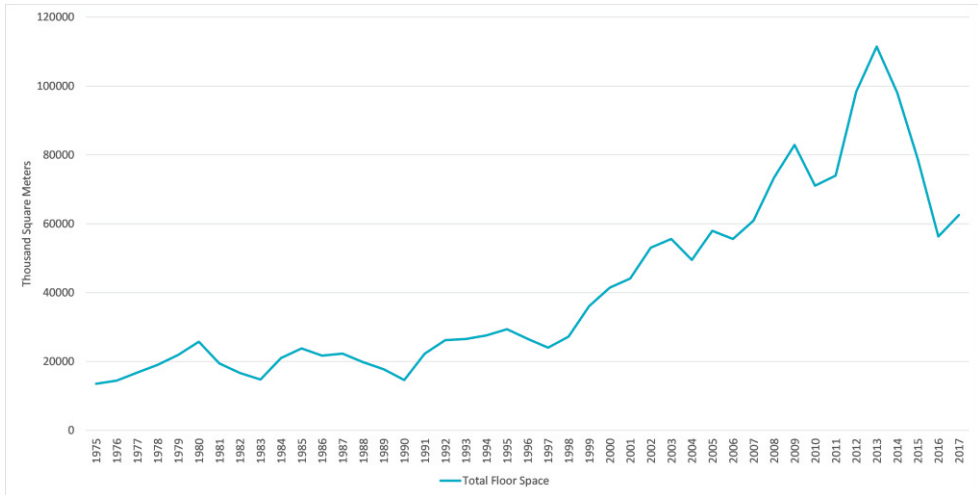
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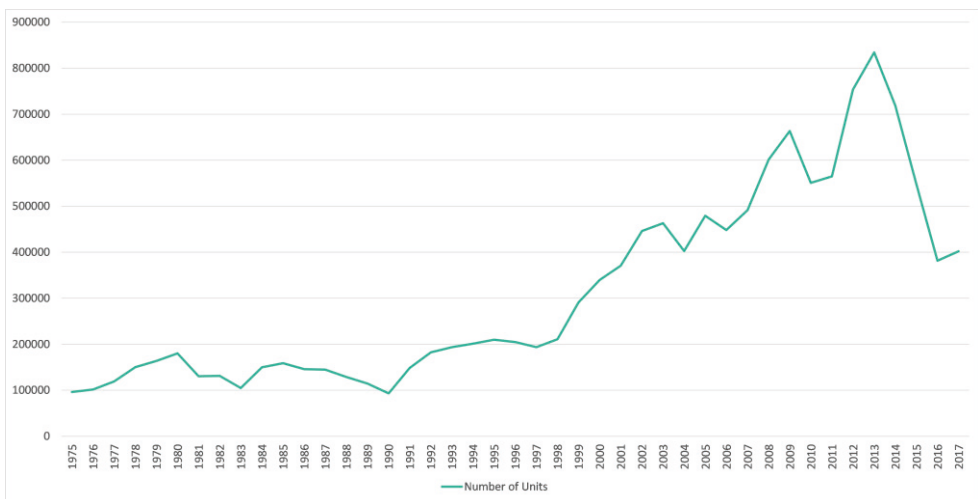**Figure 8.20** Iran - Residential Units Completed by the Private Sector in Urban Areas 1975-2017, Thousand of Square Meters

Figure 8.21 Iran - Residential Units Completed by the Private Sector in Urban Areas 1975-2017, Number of Units

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8.2. Financial System, Manufacturing Sector, Technology, and Geopolitical Conflicts

The Iranian financial system is characterized by embryonic financial institutions and instruments, which in the case of housing means non-existent mortgage markets. "That limits the possibility of homeownership for most of the population, who are required to finance their purchase" in cash and seek support from "various personal loans (with high interest rates) from banks or informal sources such as family members and relatives" (Farahani and Yousefi 2021, 50) (cf., most advanced capitalist economies in which mortgage markets are dominant (Aalbers 2012b)).

This underdevelopment of the financial system is indicated (Orhangazi 2008; Palley 2013) by a) a relatively low (around three percent) contribution of finance in GDP (CBI 2012; 2016) (Figure 8.22); b) a low (roughly three percent) contribution of finance in GNP; c) insignificant contribution of financial corporations in aggregate employment (ibid.) (Figure 8.23); d) the absence of developed financial institutions including hedge funds, equity funds, and so on (CBI 2012; 2016); e) embryonic financial instruments such as derivatives, leverages, and punitively limited credit system isolated from global markets (ibid.); f) punitively high interest rate at 14 percent (ibid. Farahani and Yousefi 2021, 50).
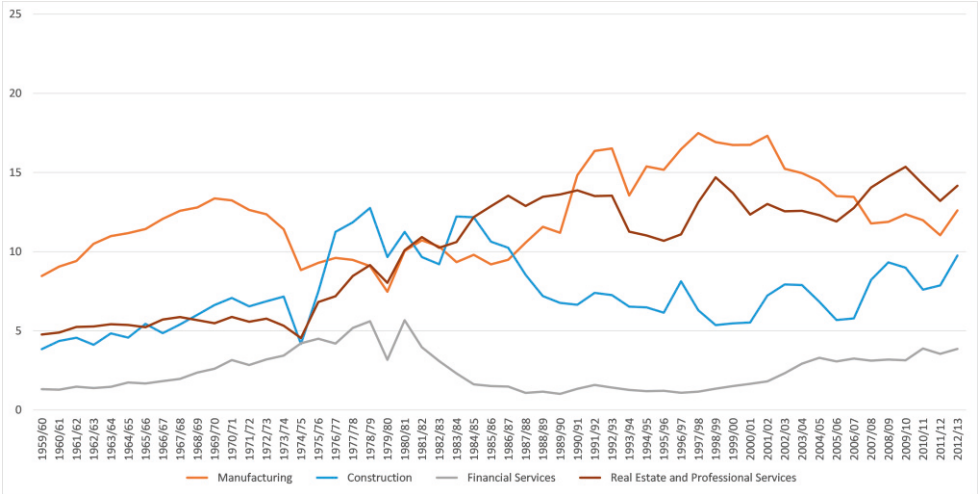

Figure 8.22 Iran - Share of Sectors in GDP (%)
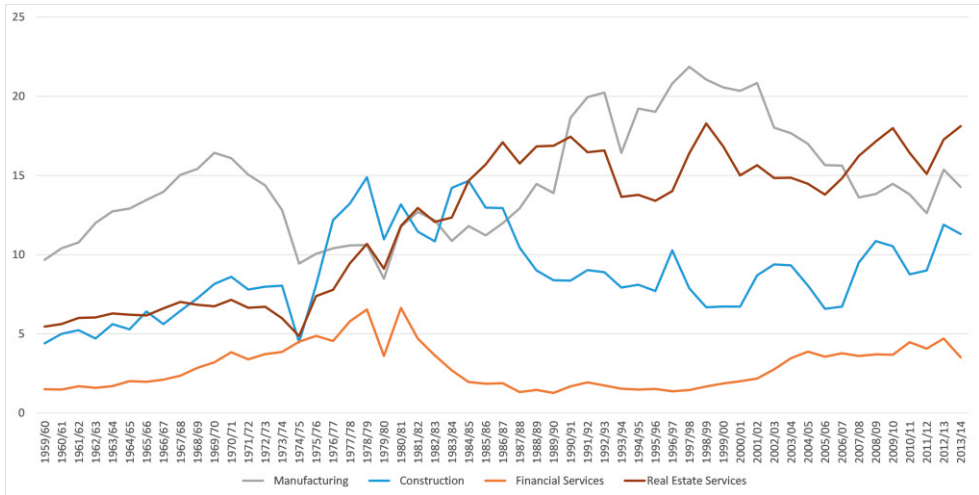
Figure 8.23 Iran - Share of Sectors in GNP (%)
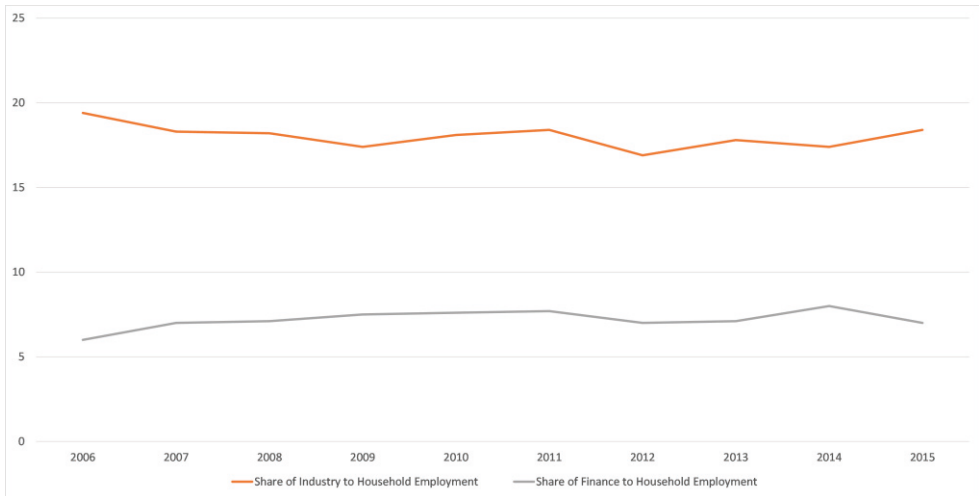
Figure 8.24 Iran - Household Employment by Sector

This predicament is due to nothing less than the isolation of the Iranian economy from international trade and financial markets. "US-led sanctions of the last 42 years (since the 1979 Revolution), especially on the import of labor-efficient technology, intertwined with various regional geopolitical conflicts, including the Gulf War, War on Terror, and most recently, civil wars in Syria and Yemen, all contributed to the current situation" (Farahani and Yousefi 2021, 51; also Schott 2006). These multi-scalar geopolitical relations have imposed draconian challenges for Iranian capitalism in terms of low productivity and low economies of scale. "Labor input [to productivity] can be increased in two ways: the length of the working day . . .

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and the intensity of the working day" (Farahani and Yousefi 2021, 55). "The length of the working day can be prolonged as far as labor laws allow it. . . The intensity of the working day, however, depends on the ability of capital to maximize the output through technological advancement" (ibid.).

The rapid growth of labor input in productivity "from less than 20 percent of the US level in 1990 to close to 40 percent in 2011" (at PPP exchange rates) (IMF 2015, 19) is achieved thanks to "very long working days, systematic wage cuts, and suppression of independent labor organizations" (Farahani and Yousefi 2021, 55). Capital input to productivity that requires incorporating labor-efficient technologies, on the other hand, "has remained strikingly constant, as 'Iran's industry sectors do not operate with frontier technology'" (IMF 2015, 25 in Farahani and Yousefi 2021, 55).

"Technological deficit and low productivity are responsible for rapidly declining economies of scale in the manufacturing sector (one study shows a decline from 0.8 to -0.16 in the last 20 years; Ashrafzadeh and Alaedini 2018) and are the reasons there is such an intense pressure to prolong the working day" (Farahani and Yousefi 2021, 55). Thus, prolonging the working day has become the Iranian manufacturing sector's primary strategy to secure profitability. This strategy, however, has reached its absolute biophysical limits as workers' capacity to work 2-3 shifts a day has begun to shrink dismally (Farahani 2013). And regional geopolitical conflicts preclude the alternative strategy (assuming the capitalists' willingness to do so) of technological development by isolating the economy from international markets.

8.3. Inter-Sectoral Analysis and Urban Land Rent in the Iranian Housing Sector

In recent heterodox urban economic geography literature, finance, insurance, and real estate (the so-called FIRE sectors) are the most discussed destinations of capital moving away from the manufacturing sector seeking higher returns (Orhangazi 2008; Aalbers 2017, 545). The underdevelopment and international isolation of the Iranian finance capital contribute to the tendency to switching from manufacturing investment to investment in construction and housing development. As Figures 8.3 and 8.12 show, capital formation in construction is at least twice as large as in machinery, and rates of return in both construction and real estate businesses are significantly larger than in the manufacturing sector.

Higher rates of profit in the construction sector (shown in terms of comparative rates of return) drive the shift in investments (shown in terms of share in capital formation) (Figure 8.9 and 8.15). The data disaggregated into residential and non-residential construction indicates that the share of investment in residential construction is significantly higher. Only in 2017, the share of residential construction in all investments in the construction sector, in all urban areas, was 70

percent (CBI 2017b). Fluctuations of profit rates in the manufacturing sector explain patterns of capital flow to the housing sector at the macro-level, as advanced in the TILR.

At the micro (plot) level, two of my studies on specific housing projects offer empirical evidence for rising differential rents. The first study analyzed an impending transformation of the country's first industrial township, Peykan-Shahr, located 24 kilometers west of Tehran (Farahani 2013). The township was built in 1969 to accommodate workers of Iran's first and later largest automaker, Iran National (ibid. 401). The firm owned the buildings and the land and heavily subsidized the rental units unit 2004 when the sell-off process was initiated (ibid.). The sell-offs triggered a hike in township units' values (between 2004 and 2011), for the firm had taken them out of the market for decades (ibid. 403).

By the time of the study, no change in the physical environment was registered. That is, no investment in the physical space was materialized. That temporarily rules out the role of differential rent II. However, the price hike could not have been solely due to the change in tenure (even though it played a role). The physical transformation of the surrounding area in terms of relative space, as anticipated in both the SMLR and the TILR, played a crucial role in appreciating differential rent I. I listed three spatial changes in the region (ibid. 403). "First, by 2005, Iran Khodro Metro Station on the Tehran-Karaj metro line was established. . . Second, in 2006, Hemmat Expressway connecting Tehran east to west was extended to Peykan-Shahr. . . Third, a slum surrounding the township called Azad-Shahr . . . was successfully redeveloped" and gentrified in 2010 (ibid.). All three spatial changes put pressure on the land and building values of Peykan-Shahr, and as more and more surrounding neighborhoods began to redevelop, it transpired that planning for the redevelopment of Peykan-Shahr finally kicked off in 2019.

The second study analyzed the failure of the country's first large-scale state-led housing program, namely the Mehr Housing Program (the MHP), propagated, with the state's typical complacency, as public housing (Farahani and Yousefi 2021). The program kicked off in 2007 with a promise to build 2.3 million units across the country (mainly in the outskirts of the medium to large cities). However, as it became apparent that the program will fail, in 2013, it was officially declared canceled (ibid.). The government typically planned to subsidize the land (which explained the remote locations), construction materials (including concrete, girder, etc.), and so forth to private developers to build townships and sell them, at somewhat affordable prices, to low-income applicants. However, as the prices began to hike, the planned target group (low-income population) was more and more excluded from the program.

For individual plots of the MHP, "what governs the flow of capital is 1) the interplay of [differential rent] I and II manifested in investment strategies of either extending the land under construction or more intensive investment on the building sites, and 2) the state of competition between forms/developers involved in the construction" (ibid. 56). This process is exemplified in the prominent private

developer, Keyson Inc., subcontracted by the state to develop MHP townships. Soon Keyson Inc. began developing well-off complexes, such as its 552-units residential complex in Parand township (near Tehran) next to MHP blocks. "The new and more intensive investment not only raises the rent for the new complex but it also puts pressure on the existing MHP units' rent and appreciates the value of the whole township, to the benefit of developers and multi-dwelling owners" (ibid.).

The cheap land plots that initially had been allocated to the development of the program attracted private developers hoping to build cheap, sell at the market price, and pocket the rent. "The remote location of the townships did not prevent businesses and affluent dwellers from seeking new investment opportunities, as it happened most typically in Tehran's satellite townships Parand and Pardis, a process that appreciated land values" (ibid. 57). That proves the argument raised by proponents of the program that the development of MHP townships will eventually trigger the development of the surrounding areas by attracting local businesses. In other words, "as far as small-scale developers and multi-dwelling owners are concerned, the program has not entirely failed" (ibid.). The interplay between differential rent I and II was responsible for both the price hike and the further development of MHP townships.

In both cases, the presence of absolute rent at the macro (national) level contributed to high magnitudes of land rent in those remote locations (marginal plots) allocated to each project. At the micro (plot) level, the interplay between differential rent I and II, whose creation and appropriation is due to changes in relative space (in response to spatial and economic development in surrounding areas), added even more to the total magnitude of land rent.

The ceiling and the aggregate rate of land rent, however, are determined by the state of inter-sectoral competition and the differential inter-sectoral profitability. "[I]nvestment in capital-intensive industries (e.g., the manufacturing sector, which requires more technologies or higher organic composition of capital) in Iran has become less profitable in recent decades, and the investment shifts to labor-intensive sectors (e.g., the construction and other extracting sectors) with the lower organic composition of capital" (ibid. 56).

Four structural characteristics of Iranian capitalism drive rent creation and appropriation (Farahani 2013; Farahani and Yousefi 2021; Yousefi and Farahani 2019). First, "the existence of extensive private ownership of urban land, which creates a vast class of urban landowners (atomistic in character but unified in their class interests)"; second, "underdeveloped finance capital"; third, "underdeveloped labor- efficient technologies"; and fourth, "low profitability of manufacturing sector" (Farahani and Yousefi 2021, 56-57). Finally, the entire process is facilitated by "systematically unregulated labor conditions, an unorganized labor force, and an unregulated housing market" (ibid. 57).

The state of inter-sectoral competition at the aggregate (national) level drives the sectoral rates of return. The difference between the manufacturing and construction sectors' profit rates determines the maximum level of expected land rent, and the

difference between the aggregate rate of profit and the rate of profit in the construction sector (when and if the manufacturing rate of profit is falling) is the source of rent (in terms of an excess sectoral profit). This process is intensified by nothing less than "the systematic suppression of organized labor and the resulting low wages, especially in the construction sector, which heavily relies on significantly weakened migrant labor" (ibid. 56). Iranian capitalism's chief strategy, therefore, has been to facilitate capital switching from the manufacturing sector to the construction in urban areas (mainly residential) to compensate for the fall in the manufacturing rate of return. Falling manufacturing profits has practically led many industrialists to "abandon their under-performing factories to invest in housing," even in the most marginal plots such as those allocated to the MHP or the Peykan-Shahr township (ibid.).

Chapter 9. Concluding Remarks on Empirical Comparisons of the SMLR and the TILR

The three empirical studies presented in Part II allow us to compare the explanatory power of the TILR and the SMLR. Thus, using Lakatos's postulates, the studies allow us to evaluate whether the TILR explains everything that the SMLR successfully explains, explains the aforementioned theory-data anomalies, and perhaps explains some 'novel facts' and in that sense, it has 'excess empirical content' over the SMLR. I would argue that the SMLR's analytical tools are limited in that beyond the monopoly pricing mechanism (used to explain the level of rent with the power of landlord class), the model fails to offer tools to measure and explain rates, ceilings, and magnitudes of land rent. Moreover, the model fails to relate rent creation and appropriation processes to the rest of the economy, limiting the analysis to micro-level (that is, the single economic sector of land, and specifically the ownership aspect of land), e.g., with housing submarket, and isolated from the whole-economy level trends and structures. The SMLR analyzes capital's movement from the primary (productive investments) to the secondary (investments in built environments) circuits conceptualized as capital switching conceptually and somewhat ahistorically. As for data-data anomalies, the SMLR relies on inadequate indicators, such as transfer payments and direct rental returns, to explain land rent relations instead of incorporating more inclusive indicators to measure excess rates of return as the source of rent without conditioning it to the monopoly power of the landlords. Harvey argued that neoclassical models are "special cases, which describe conditions when absolute and monopoly rents are insignificant, when absolute and relational concepts of time and space are irrelevant, and when the institution of private property is notably quiescent in the land and property markets" (Harvey 1973, 188). I would argue that his SMLR, too, must be viewed as a special case, which describes conditions when land and property markets are highly financialized, class monopoly relations over land vigorously dominate rent business, and profitability, inter-sectoral competition, and multi-scalar dynamics are irrelevant.

The TILR explains economic urbanization processes with contextual economic mechanisms. It explains the macro (whole-economy) level source of rent with differential inter-sectoral rates of return. Then, it demonstrates the cyclical nature of

rent creation and appropriation that corresponds to profit rate cycles using incremental profit rates, indicating capital switching empirically. Crucial in its endogenously structural analysis of economic urbanization processes is the dynamics between national economic trends and local-level economic relations. National economic trends govern (macro-level) rent rates and ceilings, and local-level economic relations determine (micro-level) rent rates and magnitudes. The TILR proposes differential inter-sectoral and intra-sectoral rates of profit as analytical tools for the analysis, as conceptualized in the notions of absolute rent and differential rent I and II. In other words, the TILR explains everything that the SMLR explains without the anomalies mentioned above by bringing in the concept of absolute rent.

Two further questions are to be addressed. First, if bringing in the concept of absolute rent can resolve the SMLR's theory-data and data-data anomalies, why have Harvey and Harvey-inspired urban economic geographers opted against incorporating and operationalizing it? And second, why can the SMLR not be appended easily with the analytical tools anticipated in the TILR, e.g., inter-sectoral and incremental rates of return, without generating more theoretical inconsistencies and tensions? Answering these questions requires further analysis of the SMLR's internal theoretical tensions that limit its power to deal with the empirical evidence presented in Part II. That will be the task of Part III.

PART III.
Theoretical Foundations of the SMLR and the TILR

Chapter 10. The SMLR, TILR, and Economic Theory:
Monopolistic Competition, Turbulent Competition, and Rent Theory

Lakatos stresses the tenacity of scientists to ignore crucial experiments against the hard cores of their research programs (that is, the empirical evidence incompatible with their theoretical conceptualization) in a series of historical observations with the help of which he refutes the empiricist fantasy that an isolated crucial experiment "can instantly overthrow a research programme" (Lakatos 1978, 86). The rationality of this resistance, which could take years to break, depends on the heuristic power of the criticized research program, derived from its underlying theories, to deal with the exposed anomalies by consistently advancing novel auxiliary hypotheses as protective belts around their core assumptions.

Part II established that bringing in the concept of absolute rent to the analysis and incorporating alternative analytical tools to measure and explain rent rates, ceilings, and magnitudes with inter-sectoral and incremental rates of return, as anticipated in the TILR, could resolve theory-data and data-data anomalies in the SMLR. This chapter discusses the theoretical foundations of the SMLR to answer two further questions: first, why have Harvey and Harvey-inspired urban economic geographers repeatedly dismissed the concept of absolute rent over the last five decades even though this decision hindered the model from providing a consistently endogenous structural explanation of rent creation and appropriation? And second, why can alternative analytical tools anticipated in the TILR not complement the SMLR (as a protective belt) without inflicting further internal theoretical tensions?

The rationality of the SMLR's tenaciously refusing to deal with the empirical evidence (as exemplified in Part II above) needs to be traced back to its underlying economic theory that deems both the concept of absolute rent and the TILR's analytical tools theoretically inconsistent with its core assumptions. Therefore, analyzing the model's theoretical consistency is crucial to examine the extent of the SMLR's response to my empirical critique presented in Part II and determine whether this critique can be considered a 'crucial experiment', in a Lakatosian sense.

The SMLR and TILR are rooted in two different, yet equally legitimate, interpretations of Marx's economic theory. These two equally sophisticated interpretations are developed by Paul Sweezy (1970 [1942]) and Anwar Shaikh (2016)[18]. Harvey has been explicit about the Sweezyan roots of his interpretation of Marx's economic theory when conceptualizing the SMLR. For the TILR, among various 'classical' interpretations that allowed incorporating the concept of absolute rent, I turned to Shaikh and his interpretation. Shaikh's interpretation is significant for the TILR and its application for geographical research in that it encompasses analytical tools for structural analysis of the historical contingency of inter-sectoral dynamics and the differential inter-sectoral profitability that explains macro-level relations governing rent creation and appropriation.

More important, Shaikh provides robust tools for the theoretical comparison of the two models. I use Shaikh's (2016) typology of economic theories based on their respective competition theories to explicate the theoretical roots of the SMLR. Instead of pointing out the difference between Harvey's (and Sweezy's) and Marx's 'original' project, Shaikh's typology allows for methodological elucidation of Harvey's framework, its internal consistency and explanatory power. In this chapter, I supplement Shaikh's typology of economic theories with a typology of rent theories to clarify the theoretical rationale behind the rejection of the concept of absolute rent in the SMLR. Typology (unlike taxonomy) has an organizing principle to judge and explain differences and variations between classes, and Shaikh's (2016) typology is of great help to pinpoint which economic theory best delineates Harvey's interpretation.

10.1. Competition Theories and Economic Theories

Shaikh (2016) classifies dominant theories of competition as the theory of perfect competition, the theory of imperfect competition, and the theory of real (or turbulent) competition.

10.1.1. The Theory of Perfect Competition

The economic theory that corresponds to the theory of perfect competition, Shaikh argues, is neoclassical economics. An offspring of Walrasian general equilibrium theory, neoclassical economics paints an ideal picture of the capitalist economy (Shaikh 2016; Zachariah 2020). In its theory of the firm, firms enter into the

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[18] Other prominent interpretations of Marx's economic theory, for example, include Moishe Postone's value-form interpretation, Elmar Altvater and Paul Mattick's logic of capital interpretation, Fred Moseley's macro-monetary interpretation, and closer to Shaikh's interpretation, Andrew Kliman, Alan Freeman, and Guglielmo Carchedi's temporal, single-system interpretation.

competition as 'rational' (yet passive) price-takers with perfect knowledge, assuming the demand would eventually meet the supply through general equilibrium (Shaikh 2016). Shaikh clarifies, "[t]rading began with an announced market price that elicited buy or sell offers for quantities of individual commodities and labor power; this price being in accordance with the assumed utility-maximizing behavior of individual participants" (ibid. 342).

In other words, he argues that in the theory of perfect competition, passive price-taking, cost-cutting firms enter the competition with perfect knowledge and free entry and exit for both capital and labor. They perform within an equilibrium state and tend to overlook demand. The theory encompasses an ideal-type model for capitalist competition marked by free entry and exit and perfect knowledge between a multitude of infinite small-sized firms performing within a supply and demand equilibrium state (ibid.). Anomalies and counter-examples are treated as exceptional imperfections and reciprocated with widening and broadening free markets (ibid.). It, according to Shaikh, "assumes that all firms are exactly the same and like modern Major-Generals, that they have perfect knowledge of all relevant economic circumstances . . . These two assumptions turn out to contradict one another so that price-taking behavior turns out to require that firms hold irrational expectations" (ibid. 346).

10.1.2. Theories of Imperfect and Monopolistic Competition

The theory of imperfect competition, Shaikh argues, departs from (and depends on) similar ('irrational') presumptions (Shaikh 2016, 357). Profit-maximizing, passive price-taking, cost-cutting firms enter the competition with imperfect knowledge, with entry and exit barriers related to imperfect competitive relations (such as monopoly or oligopoly relations) (ibid.). He (ibid.) contends that firms face, in time, shrinking market shares, diminishing returns, and a downward slopping demand curve. Nevertheless, the equilibrium state is plausible due to external forces boosting investment and recovering falling effective demands (e.g., regulations and government expenditure) (ibid.). The imperfect competition theory stresses that the capitalist economy is in a constant state of imperfection, and perfect competition is something of a distant past (ibid.). Accordingly, unlike in the perfect competition theory, anomalies are treated as rules and not as exceptions (ibid.).

For the theory of imperfect competition, imperfections are rules, and that includes the competition itself (ibid.). Here, too, firms are passive price-takers. Unlike the perfect competition theory, however, since firms are not assumed to be of the same size, the demand curve is downward (ibid.). Firms, in this theory, Shaikh stresses, still aim to maximize profit. Nevertheless, since they come into the competition in different sizes, the competition becomes oligopolistic and monopolistic (ibid.). They forecast the demand and may switch markets if need be. This last point

determines the extent of fiscal policy to increase effective demand[19] (ibid.). The theory of imperfect competition, thus, "proceeds by relaxing one or more of the assumptions of the theory of perfect competition: perfect knowledge, maximizing behavior of consumers and firms, perfect mobility of labor and capital (perfect entry and exit), large number of consumers and firms (to justify price-taking), diminishing returns at some point so that the average cost curve is U-shaped, and no consumption or production externalities" (ibid. 357).

In the Marxian economics tradition, Shaikh (ibid. 353) identifies a similar response that emerged from a neo-Ricardian critique of Marx by Ladislaus Bortkiewicz (1952 [1906, 1907]), claiming Marx's analysis of the transformation of values into prices is internally inconsistent (i.e., the transformation problem[20]). Sweezy (1970 [1942]), by integrating Bortkiewicz's critique of Marx's labor theory of value, and Hilferding's theory of finance capital (1981 [1910]), developed an economic theory for monopoly capitalism, according to which not value and profitability but prices and overaccumulation drive capitalist development in the ostensibly current stage of monopoly (also Baran and Sweezy 1966). For Hilferding, "[c]artelized industries are said to achieve higher profit rates by raising prices and limiting the growth of supply" (Shaikh 2016, 353). Hilferding argues that in this context, "the need for cartels to limit the growth of their own supply in the face of their 'exceptionally large profits . . . makes the export of capital an urgent matter'" (Hilferding 1981 [1910], 233-234; Zoninsein 1990, 19-20 in Shaikh 2016, 353-354).

The Sweezyan model, which Shaikh classifies as the theory of monopolistic competition, "builds on Marx's argument that the scale and capital intensity of production and the centralization of ownership increase as capitalism develops" (Shaikh 2016, 353). And capitalist development "leads to a growing monopolization of capital, so that at some point in the late nineteenth century monopoly supersedes competition and ushers in a new stage of capitalism" (ibid.). In this context, Shaikh elaborates, "objective laws of prices and profit rates [of competition] give way to power-driven outcomes [of monopoly]" (ibid. 353). The theory outlines an equilibrium theory of monopoly capitalism, according to Shaikh, that assumes a

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[19] Keynesian (e.g., Keynes 1964; Krugman 1991; Samuelson 1969), Sraffian (e.g., Sraffa 1926; Steedman 1977), and Post-Keynesian (e.g., Kalecki 2009 [1969]; Robinson 1970 [1933]) theories, according to Shaikh, are quintessential economic theories of the theory of imperfect competition.

[20] Mosely (2011, 186, emphasis in original) summarizes the 'problem' as: "in Marx's theory of prices of production in volume 3 of *Capital*, he '*failed to transform the inputs*' of constant and variable capital from values to prices of production". It is argued that "constant and variable capital are derived from given physical quantities of means of production and means of subsistence, and are first determined as the values of these groups of commodities in volume 1 and then determined as their prices of production in volume 3. The criticism is that Marx failed to make this transformation of constant and variable capital in volume 3, but instead left these inputs in value terms" (ibid.). Hence, Marx's argument, it is argued, is logically inconsistent. Suffice it to note that Bortkiewicz's critique has been widely contested on both theoretical and empirical grounds since the 1970s (see e.g., Freeman and Carchedi 1996; Foley 1982; Freeman 2010; Kliman 2007; Mattick 1981; Moseley 2016; Shaikh 1977; 2016; Yaffe 1976).

golden age of the free market in the 19th century that ended by the Long Depression (1873-1896). Capitalism has subsequently entered a monopoly stage, primarily with finance capital taking over productive sectors (i.e., the real economy).

According to Shaikh (ibid. 354), "Sweezy accepts Hilferding's claim that rising scale, capital intensity, and centralization of capital lead away from 'free competition' toward monopolies" (Sweezy 1970 [1942], 254 in Shaikh 2016, 354). The difference is that, for Sweezy, "the dominance of big banks in the early stages was merely a 'passing phase'" (ibid.). And that led Sweezy to suggest "the term 'monopoly capital' over Hilferding's 'finance capital'" to describe the present stage of capitalist development (Shaikh 2016, 354). Sweezy (1970 [1942], 258 in Shaikh 2016, 354) agrees with "Hilferding's central point" that "the objective laws of competition are superseded by contingent outcomes based on various degrees of monopoly power". The monopoly power enables monopolies "to limit supply and hence to raise price", thereby securing "higher profits at the expense of the competitive sector, which triggers the rise of monopolies in the latter so that monopolization spreads" (ibid.).

Ideally, a "uniform degree of monopoly could conceivably bring about roughly equal profit rates" (ibid.). The unequal nature of monopolization, however, means "in practice, we get a hierarchy of profit rates that are highest in the most monopolized (large-scale) sectors and lowest in the most competitive (small-scale) ones" (ibid.). Shaikh (ibid.) elaborates, "[m]onopolies slow down the expansion of their productive capacity 'in order to maintain their higher rates of profit' (Sweezy 1981, 302) so that 'capital crowds into more competitive areas'" (Sweezy 1970 [1942], 285 in Shaikh 2016, 354). Besides, "'the level of income and employment under monopoly capitalism is lower than it would be in a more competitive environment'" (Sweezy 1981, 285, 302, in Shaikh 2016, 354).

In the absence of the labor theory of value, Shaikh argues, profits are dissociated from the production process in the Sweezyan interpretation. They are, instead, associated with barriers to trade and firms' sizes, thereby their capacity to manipulate the supply and decelerate "the expansion of their production capacity" to exert (excess) monopoly prices and maintain (excess) monopoly profits (Shaikh 2016, 354). A monopoly price is a function of the Kaleckian notion of the "degree of monopoly", that is, "the power of a firm to impose a [monopoly] price markup[21] on prime production costs" (Foster and McChesney 2012, 85 in Shaikh 2016, 356).

The Sweezyan theory of monopolistic competition, according to Shaikh, represents a politically radical subgenre of the imperfect competition theory. The main barrier to free entry and exit and the primary driver of shrinking investment

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[21] For Kalecki, a monopoly price markup is "determined by 'the degree of concentration, the relation of transport costs to price, the degree of standardization of price, the organization of commodity exchange, and so on'" (Kriesler 1988, 111 in Shaikh 2016, 360). And market prices "depend on the markup over prime costs ([degree of monopoly over material and labor costs]) and the average price (degree of competition)" (ibid.; also Kalecki 2009 [1969], 14).

opportunities is monopoly relations regulated (and exploited) primarily by finance capital. Like the perfect competition theory, an economy is only regarded as competitive when there is an infinite number of small-sized firms (ibid. 355). In other words, the Sweezyan interpretation understands competition as a "large number and small size of firms" to minimize the impacts of monopoly prices and monopolistic superprofits (Shaikh 2016, 355). Despite the model's claim, however, Shaikh stresses, "it is solely within the theory of perfect competition that an industry is deemed fully competitive only when its firms are infinitesimal price-takers, identical in cost structure and infinite in number" (Shaikh 2016, 355). Thus, Shaikh concludes, the Sweezyan theory of monopolistic competition fails to move beyond the assumptions of the theory of perfect competition.

Many scholars have widely discussed anomalies of Sweezy's theory, from Schumpeter (1950) to Mattick (1981). Shaikh produced one of the most systematic methodological appraisals of Sweezy's model. Two crucial anomalies with monopoly capitalism theory, as identified by Shaikh, are pertinent to my analysis. First, the Sweezyan interpretation requires an exogenous (i.e., political, institutional) explanation to understand monopoly relations. That is, it explains monopoly relations exogenously and with the actions of the agent. And second, suppose that we have an economy in which all firms are monopolies, then we have competition between monopolies. In order words, monopoly relations are to be explained, not assumed.

10.1.3. The Theory of Turbulent (Real) Competition

Classical political economists, Shaikh contends, are distinguished from post-classical political economists for their 'realistic' view of capitalist competition and development. Marx, in particular, developed a theory of "anarchical" competition in which "competitive firms are active price-setters and aggressive cost-cutters (unlike the passive price-taking firms assumed in perfect competition) and that the creation of techniques with lower production costs generally requires greater investment in fixed capital per unit" (Shaikh 2016, 327). That is to say, the starting point for the theory of turbulent (real) competition[22], as revived and advanced by Shaikh, is not ideal, 'pure' competition, nor is it the supposed imperfections that may mutilate that idyllic image (whether as exceptions or rules), but an actually-existing disequilibrium through which few firms win and most lose. "In Marx, real competition brings about a constant fluctuation whose 'disorder is its order', and 'anarchical movement, in which rise is compensated by fall and fall by rise, which . . . bring with them the most fearful devastations and, like earthquakes, cause

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[22] In this monograph, I cautiously favor 'turbulent' competition over 'real' competition to emphasize the turbulent character of inter-sectoral competition in the TILR.

bourgeois society to tremble to its foundations'" (Marx 1847, 174-175 [203-217] in Shaikh 2016, 356).

Shaikh distinguishes the theory of competition in Marx from Smith and Ricardo in that first, for Marx, the logic of capital is "to invest money to make more money", i.e., profit-seeking (Shaikh 2016, 333). Second, Shaikh contends that capital performs as 'many capitals' competing for higher profits and lower costs in the real world. Third, market prices are regulated by average production conditions set by and gravitate around the most productive, regulating capitals (ibid. 336). Firms compete (within and between sectors) in turbulent disequilibrium conditions to become new 'regulating capitals', knowing that the demand curve is slopping and their profit share is at constant risk (ibid.). Fourth, "the mobility of capital equalizes profit rates of the regulating capitals" within and between sectors (ibid. 567). Fifth, Marx developed his theory of competition, Shaikh clarifies, as "differential [sectoral] profitability" (ibid. 336) from his critique of Ricardo's differential rent in agriculture. Sixth, Marx's theory of crisis (i.e., the law of the tendency of the rate of profit to fall) integrates labor costs, choice of technology, and time path to explain why (and how) crises occur (ibid.).

In the theory of turbulent competition, according to Shaikh, regardless of the number and sizes of active firms in the competition, firms are profit-seeking, price-setting, and cost-cutting actors who aggressively invest in labor-efficient technologies to set new prices and become new regulating capitals. They perform in a turbulent disequilibrium where their profits gravitate around prices set by regulating capitals. A regulating capital, Shaikh elaborates, is the most efficient capital in the case of the manufacturing sector. In the case of extractive, rent-bearing industries, however, the competition is regulated by the least efficient regulating conditions of production due to the land rent component of total returns, allowing (non-regulating) capitals to invest less aggressively in labor-efficient technologies and still enjoy relatively high returns (ibid.).

10.2. Harvey and Economic Theory

There has been a growing debate regarding Harvey's economic theory of choice, especially in recent years. The reason is that, especially in recent years, he has failed to offer a coherent economic theoretical framework for his analysis of the spatiality of capitalist development and its recurrent overaccumulation crises, nor has he provided a consistent framework for his, sometimes, not-well-supported-critique of Marx's analysis of capitalist development and its recurrent profitability crises (Harvey 2018; Roberts 2020a). Thus, it is argued that when it comes to economic theory, Harvey seems to be inconsistent. He has been criticized for such ambiguities in his economic theory since the 1970s by Marxists and non-Marxists (e.g., Bruegel

1975; Evans 1991; Kliman 2015; Mattick Jr. 2008; Murray 1977, 1978; Roberts 2014, 2016b).

I have a fourfold argument concerning this line of critique. Firstly, the alleged inconsistency is not monolithic throughout Harvey's career. Harvey seems to rely on Sweezy's theory of monopoly capitalism more consistently in his early works. Sweezy's influence is evident in his works during the 1970s and the 1980s (e.g., Harvey 1973; (with Chatterjee) 1974; 1974a; 1978; 2006 [1982]; 1985; 1989). His groundbreaking intervention to relate the spatial dynamics of capitalist development to the dynamics of capital culminated in this period (the 1970s and 1980s). The inconsistency critique seems especially valid for his later (more polemical) works, but it is not relevant for the present study's aim. Secondly, and more importantly, he is consistent in his interpretation of rent theory, and again his SMLR is consistent with Sweezy's interpretation. Thirdly, all this means that among available (scientifically legitimate) interpretations of Marx's economic theory, Harvey had chosen the one proposed by Sweezy, which he deemed analytically more suited to explain the geographical dynamics of capitalist development. Fourthly, the theoretical critique is only valid, methodologically speaking, when it is empirically demonstrated that his economic theory could produce anomalous outcomes for geographic research (Harvey's subject matter). Such empirical (geographical) implications have rarely been presented by Marxist critics of Harvey, no matter how accurate they might have been at the level of economic theory.

Harvey has not been as inconsistent as he might seem in his popular science works in recent years, back in the 1970s until the early 1990s, when he established his model for urban land rent. And as far as those early (yet more substantial) academic works are concerned, his economic theory is somewhat straightforward. And this has been addressed in most commentary/critiques raised by other Marxists (e.g., Callinicos 2009). Sweezy's influence, and more accurately, Luxemburg/Sweezy's interpretation of Marx's economic theory that gives more prominence to the circulation/realization sphere, is bold and clear in Harvey's works throughout the 1970s and the 1980s (e.g., Murray 1977). That does not mean that Harvey took either Luxemburg (1951) or Sweezy uncritically. On the contrary, Sweezy elevated Luxemburg's (and Bortkiewicz's (1952 [1906, 1907])) interpretation to another level by relating both under-consumption and overaccumulation processes to monopolistic and oligopolistic competition that allegedly dominated capitalism since the end of the 19th century (Baran and Sweezy 1966; Sweezy 1970 [1942]). In his critique of neoclassical theories of urbanization, Harvey revived and advanced the Sweezyan interpretation to relate economic urbanization processes and geographical unevenness to overaccumulation and monopolistic relations.

Harvey (2006 [1982], 144) argues that neoclassical economics "idealizes firms in ways that never existed and fetishizes the small-scale enterprise, which lacks any degree of monopolistic market power, as the ideal agent for achieving competitive equilibrium". He (ibid. 144) maintains, "[i]n the supposedly 'competitive' stage of capitalism, when firms were indeed relatively small, the law of value operated

imperfectly and the laws of motion were but partially felt". In the mid-19th century, the crucial economic strategy "was to perfect competition, enhance the operation of the law of value and continue to increase the productivity of labour so that accumulation could be sustained" (ibid. 144-145). The aim was to overcome barriers to the circulation of capital and eliminate "local monopolies . . . through spatial integration" (ibid. 145). By spatial integration strategy, he means that "[t]ransaction costs had to be much reduced, mechanisms for the collection and dissemination of information improved and an institutional structure to facilitate money payments, capital flows, etc., had to be created" (ibid.).

Harvey contrasts this ideal neoclassical portrait of capitalist urbanization processes with the realities of imperfect, monopolistic relations (ibid.). He argues, "[t]o some extent the barriers to competition were reduced by massive improvements in transport, communications and banking techniques" (ibid.). But "the rise of large-scale, quasi-monopolistic forms of organization with quite immense market power by nineteenth-century standards" limits the success of the strategy in each sector. In the case of the railroads,

> [t]he 'organizational revolution' that took place at the end of the nineteenth century, and which culminated in the emergence of trusts and cartels, can in part be seen as an attempt to deal with all of these barriers to competition by replacing the family business by modern business enterprise. This replacement occurred . . . when 'administrative coordination permitted greater productivity, lower costs and higher profits than coordination by market mechanisms' (ibid.).

Harvey does not refer directly to Sweezy in the passages mentioned above. But the case he reports is a quintessential case for both imperfect and monopolistic competition theories, as articulated by Shaikh (2016): that all barriers to a perfectly competitive economy, ruled by the free movement of an infinite number of small-sized firms, are, in fact, no exceptions to the free market rule. Harvey (2006 [1982]) stresses that monopoly relations are embedded in every bit of the reality of the capitalist market and production. Besides, similar to Sweezy (1970 [1942]), the emergence of such monopoly relations is traced back to the late nineteenth century. The passages also reflect another interesting theoretical rivalry. Here Harvey outlines his methodologically superior alternative to the neoclassical location theory and sets up early formulations for his uneven geographical development theory (see Chapter 3 above).

Highlighting the significance of "spatial competition and the consequent geographical mobility of capitalist production", Harvey (2006 [1982], 389) writes, "[u]nder competition, relative locational advantage translates into excess profit". Like in the case of technological advantage, the excess profit due to locational advantage "accrues to individual capitalists who sell at the social average but produce at local costs which are lower than the social average" (ibid.). Long-term monopolies over superior locations are "taxed away as land (location) rent . . . The rate of profit to capitalist producers will tend to be equalized across locations either

through the appropriation of rent or through the geographical mobility of production capital" (ibid.).

To elucidate his critique, using "a highly simplified model" inspired by perfect competition theory, he assumes, a) "all capitalists turn over all elements of their capital on an annual basis and that they are free to change location without incurring any devaluation at the end of each year", b) "a closed plain upon which competing capitalists with identical technologies accumulate capital through the production and exchange of a homogeneous product", and c) "all capitalists have perfect information about profit opportunities on the plain" (ibid.). To equalize profit rates, "[a]t the end of each year capitalists can shift into a spatial configuration of production locations" (ibid.). To explain the barriers to continuous accumulation, he further assumes, "[i]f one capitalist expands output and shifts location to maximize the prospects of realizing values (in both production and exchange), then other capitalists are forced to follow suit in order to defend their competitive position" (ibid. 389). Thus, he concludes, "[t]he aggregate long-run effect on a closed plain is that the search for individual excess profits from location forces the average profit rate closer and closer to zero" (ibid. 389).

This hypothetical situation means "that competition for relative locational advantage on a closed plain under conditions of accumulation tends to produce a landscape of production that is antithetical to further accumulation" (ibid. 389). Capitalists "tend to expand production and shift locations up to the point where the capacity to produce further surplus value disappears" (ibid. 389-390). Harvey calls this "a spatial version of Marx's falling rate of profit thesis" (ibid. 390). That hypothesis follows by two additional hypotheses. The first hypothesis indicates "the processes making for 'spatial equilibrium'–broadly spelled out in bourgeois location theory–are, from the Marxian perspective to be seen as part and parcel of the processes which lead to crises of accumulation" (ibid.). The second one denotes "those countervailing forces (including those unleashed in the course of crises) which push the space economy of production into some seeming state of chronic disequilibrium, have a potentially important role to play in staving off, limiting or resolving aggregate spatial crises of accumulation" (ibid.).

These hypotheses lead Harvey to depart from Marx's 'thesis' and infer his alternative model to explain the spatial crisis of overaccumulation, which includes two mechanisms for "crisis formation and resolution" expressed as uneven geographical development and spatial fix to emphasize the role of space and location in the "circulation and accumulation of capital" (ibid.).

Sweezy's interpretation relied on Bortkiewicz's critical appraisal of Marx's labor theory of value. Bortkiewicz (1952 [1906, 1907]) argued that Marx's argument for the process of transformation of values into prices of production was inconsistent– a critique which Harvey (2006 [1982], 351) finds valid. Thus, for both Sweezy and Harvey, Marx's calculation of profit rates, based on values, and in that sense, his entire crisis theory, based on the law of the tendency of profit rates to fall, seems

unreliable[23]. Instead, to explain the causes of periodic falling demand, the Sweezyan interpretation points to a dramatic shift in the capitalist competition since the end of the 19th century and the dominance of monopolistic competition. Monopolistic competition (dominated by a finite number of large firms) leads to surplus capital and overaccumulation. Capital needs to bring in new externalities (as investment opportunities) to overcome these contradictions and absorb surplus capital. Sweezy analyzes these new externalities, for instance, with the rise of luxury production, of which large-scale militaristic production is one (Baran and Sweezy 1966). For Harvey (2006 [1982]), urban built environments (with long turnover periods) are the most prominent externalities to (slowly) absorb the surplus and potentially fix overaccumulation crises spatially.

Harvey's SMLR is internally consistent with the core assumptions of the Sweezyan interpretation, itself largely indebted to Luxemburg. The model is also, and to a certain extent, externally explanatory. These two characteristics of a scientific model need to be protected by the scientists against external anomalies raised by newly found evidence and the competing theoretical explanations. The SMLR has been subject to such theoretical criticisms ever since it took center stage in Marxist geography. But it survived the criticism for its extraordinary ability to explain some urban economic processes in terms of the monopolistic dynamics of capital.

10.3. Competition Theories and Rent Theories

Let me now update Shaikh's typology to encompass rent theories.

For the theory of perfect competition, I would argue, the solution to the rent question is intuitive. Since rent is an anomaly caused by a monopoly, rent should be eliminated for a perfectly competitive market to perform. True, rent might exist, but its value has to be determined according to Say's Law (i.e., supply creates its own demand). Thus, as long as market forces determine its rates and magnitudes, there would be no problem. In other words, according to the perfect competition theory, rent is an imperfection, which arises due to sectoral monopolies in land-based, rent-bearing sectors. In the oil industry, for example, the nation-states and international cartels, such as OPEC, have established a sectoral monopoly to secure land rent components of their returns. Therefore, to neutralize its impact, one should aim for widening and deepening the market against sectoral monopolies, for instance, through antitrust laws.

The theory of imperfect competition would consider land rent an imperfection, which arises due to firm monopolies (e.g., monopolistic land ownership). However,

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[23] This argument was also echoed by non-Marxist economists such as Sraffa (1926) and Robinson (1970 [1933]).

unlike the theory of perfect competition, imperfection is perceived as the rule. Moreover, since rent is exploited by non-productive sectors (e.g., finance), it must be regulated by the public sector and civil society to restrict speculative investments and other non-productive economic practices.

Inspired by the theory of imperfect competition, the SMLR construes rent as a barrier to the free movement of capital that arises due to the monopolization of land. Rent creation and appropriation are associated with monopolistic property relations limiting the circulation of capital and its movement across space. Rent, therefore, arises due to a landowner/developer class's strong presence, allying with finance to liquidate land (as a spatially fixed asset). This alliance (speculator-developer) appropriates the rent. And the entire process is facilitated by market-friendly urban policies and governance. Harvey (2006 [1982], 73) writes rent arises due to "[t]he monopoly power that accrues to landowners through the private ownership of land". This privilege itself is due to land being "an indispensable condition of production in general" (ibid.). "The circulation of capital encounters a barrier in the form of landed property" (ibid.). And land rent is paid "for the use of the land as a condition or means of production" (ibid.). The level of rent depends on the power of the landlord class to impose monopoly prices on land, which itself depends on the context, as "a pattern of social relationships that penetrate willy-nilly into the heart of the production process and condition its organization and form" (ibid.).

Both strands of imperfect competition theory, as articulated by Shaikh, imply that exogenous forces need to be exerted to minimize the negative impacts of land rent. A typical example of such forces is a broad anti-monopoly alliance and similar calls for uniting small capitalists and the poor against finance and monopolies' dominance. Again, the theory offers an exogenous explanation to understand monopoly relations as preconditions of rent creation.

In Shaikh's theory of turbulent competition (that informs the TILR), rent exists and is not an exception. The source of rent is the excess sectoral profit rate present in rent-bearing sectors. Rent arises due to turbulent macro-level inter-sectoral and micro-level intra-sectoral competitive dynamics, which in return set its limits (its rates and ceilings) and determine the extent of its magnitudes. Historical and geographical contexts play a crucial role in determining when and where investments tend to move to rent-bearing sectors, making rent creation and appropriation historically contingent. When present, the excess sectoral profit in rent-bearing sectors drives the movement of capital. "[G]iven that competition among producers will enforce a common price, lower cost producers will tend to have higher profit margins and higher profit rates . . . This means that better mines and lands will earn excess profit for their producers simply because their conditions are not reproducible" (Shaikh 2016, 266; also see Chapter 1 above). Rent is appropriated by the landlord when and where the landlord and the capitalist are separated. It is appropriated by the capitalist when and where the capitalist investing in the land also owns it (e.g., in modern capitalism). In that case, "[e]ven if the capitalist and the landlord are the same, one persona gets the normal profit and the

other gets the rent" (ibid. 333). Rent remains "in the pockets of the firms operating the land if they own it themselves, it can be shared between the firms and the actual landowners if the two are different entities, or can even be appropriated entirely by the latter if they have the power to rent their land to the highest bidder" (ibid. 266).

As far as economic theory is concerned, each of the two competing models discussed in this study and their respective interpretations of Marx's economic theory (i.e., Sweezy's theory of monopolistic competition and Shaikh's theory of turbulent competition) anticipates certain categories of land rent. In the SMLR, rent categories would be differential rent I, differential rent II, and class-monopoly rent, while in the TILR, rent categories would be differential rent I, differential rent II, and absolute rent. Thus, the difference would be in the two macro-level categories of class-monopoly rent and absolute rent. The concept of class-monopoly rent analyzes the social (monopolistic) patterns of landed property in class terms that determine the existence of rent and preexist spatial monopoly (as a relative locational advantage). The concept of absolute rent tells a different story. Absolute rent is equally indifferent to the immediate characteristics of the land plot (e.g., differential fertility and relative space), so central to differential rent I and II. It, however, depends on the state of the inter-sectoral competition determining excess sectoral profits. Fluctuations in profitability in other sectors (manufacturing sector, to be exact) and the state of inter-sectoral competition would determine the existence of rent and its ceiling and rate at the macro-level. That is to say, the concepts of differential rent I and II can explain the magnitudes and intra-sectoral rates of rent at the micro-level. The concept of absolute rent explains rent's ceiling and rate at the macro-level and the magnitude of rent in the marginal plot, provided differential rents are zero. Where differential rents are not zero, provided absolute rent exists at the macro-level, absolute rent's magnitude will add to the total magnitude of land rent.

10.4. Harvey, Absolute Rent, and Class-Monopoly Rent

"Absolute rent implies class monopoly power of some sort", write Harvey and Chatterjee (1974, 32). They elucidate their point by saying, "by 'class monopoly' we mean a class of producers (or consumers) who have power over a class of consumers (or producers) in a situation of structured scarcity" (ibid.). According to them, absolute rent "accrues to the monopoly power of landlords as a class vis-à-vis the collective power and condition of the tenantry" (ibid. 33). Absolute rent, therefore, arises due to "a 'class' conflict within a restricted geographical area (within an absolute space)" (ibid. 33). They interpret Marx's explanation of the mechanisms responsible for creating absolute rent, i.e., barriers to the equalization process, as "absolute limits of some sort operating over different segments of the housing market" (ibid.). "'Absolute limits' means in this case the creation of

absolute urban spaces within which producers and consumers of housing services face each other as classes in conflict" (ibid.). Rent appropriation depends on a) "the internal conditions within that sub-market" and b) "the interaction between sub-markets" (ibid.). They define class-monopoly power as "the relative power of those supplying housing and those consuming it, as that relative power is mediated by institutional policies (legal, political, financial, governmental, etc.)" (ibid. 34).

Harvey later elaborates these power relations and says, landed property "entails an *absolute* conception of space, one of the most important properties of which is a principle of individuation established through exclusivity of occupation of a certain portion of space–no two people can occupy exactly the same location in this space and be considered two separate people" (Harvey 2006 [1982], 338-339, emphasis in original). He moved away from the early definition presented in his article with Chatterjee and renamed the category of rent analyzed in the first article class-monopoly rent (Harvey 1974a, 241). Other geographers have also noticed this shift (e.g., Sheppard and Barnes in Barnes and Sheppard 2019, 207 footnotes). However, this conceptual shift was interpreted as a refutation of absolute rent's relevance to geographic research, especially in the urban context. Sheppard and Barnes (ibid.) write, Harvey "quickly realized, though, that absolute rent was *inappropriate*, substituting the term 'class monopoly rent'" (my emphasis).

Later Harvey writes, "absolute rent is not an important category" in Marx's critique of Ricardo, but it is a prelude to his main critique as articulated in differential rent I and II (2006 [1982], 353). More explicitly, in recent years, Harvey (Harvey 2010, 81) declares, "I discount here a third category that Marx proposed called 'absolute rent' because, frankly, I *do not think it works*" (emphasis added). And later, he said, "'I now think that Marx's theory of absolute rent is *meaningless* and *irrelevant*. Marx does not develop monopoly rent but mentions it on the edges. But it has a clear relevance in urban situations'" (Harvey 2013 interview in Barnes and Sheppard 2019, 207, my emphasis).

The concept of absolute rent, therefore, appears as a theoretical tension in the SMLR's economic theory. To address this tension, Harvey singles out a theory-data anomaly and a theoretical inconsistency in Marx's original formulation of the concept of absolute rent. These two are a) that Marx's argument for the low organic composition of capital in agriculture is inconclusive, and b) that Marx's explanation of the source of absolute rent (i.e., the excess inter-sectoral profit rate) suffers from 'the transformation problem'.

10.4.1. Harvey, Absolute Rent, and the Organic Composition of Capital

Establishing his critique of Marx's conceptualization of absolute rent and his explanation for preconditions of absolute rent in agriculture (and other labor-intensive, rent-bearing sectors), Harvey (2006 [1982], 352) points to a potential dilemma. He argues that absolute rent might disappear (and become analytically irrelevant) should the low organic composition of capital in the sector disappear in

response to historical, technological developments—an argument also shared by some institutionalist and Ricardian urban critics of absolute rent (Ball 1977; 1985; Economakis 2003; Evans 1991; 1999a; Scott 1976). Harvey (2006 [1982], 352) says, "[t]he low value composition of capital in agriculture is attributable more to technological and scientific lag in that sector than to anything else. Once agriculture catches up, which at some point it must, then absolute rent disappears, leaving the landowners to take monopoly rents if they can".

Harvey finds Marx's anticipated preconditions for absolute rent's disappearance problematic. As Edel (1992, 76) argues, for Harvey, the financialized monopoly of land allows the landed property to perpetually extract a surplus of sorts, in terms of monopoly price, especially if they can "artificially withdraw land from production and so raise the rents on the remainder" (Harvey 2006 [1982], 353).

In the TILR, the existence of absolute rent depends on the inter-sectoral competitive dynamics, at the whole-economy level, to secure excess sectoral profits by incorporating labor-efficient technologies (maximizing the rate of exploitation). If inter-sectoral competition indicates higher expected rates of return in the manufacturing sector (or even in finance), alternatively, if inter-sectoral differential profitability or technological difference between sectors was minimal, of course, absolute rent would be minimized (as Davis (2006) observed in Dubai real estate market prior to the Great Recession). That is, in the presence of absolute rent, at the macro-level, firms can refuse to invest in labor-efficient technologies (leading to the lower organic composition of capital) and still pocket high rates of return. But that is spatiotemporally determined and depends on the empirical study of each case. For example, suppose absolute rent diminishes due to relatively lower sectoral rates of return or, in rare cases, the nationalization of land. In that case, the same firms have no choice but to invest heavily in labor-efficient technologies to remain competitive, leading to an increasing sectoral organic composition of capital. Thus, agriculture's 'catching up' is not a one-time development. Instead, it is a consequence of a long-term turbulent inter-sectoral competitive process through which rent-bearing sectors might reflect a high or low organic composition of capital at a given time and place.

More important, inspired by the Sweezyan interpretation and in the absence of the labor theory of value[24] (Bruegel 1975; Edel 1992; Kliman 2015; Murray 1977; Roberts 2020a), Harvey's favored mechanism to determine the level of both absolute and monopoly rents is monopoly pricing (the manipulation of supply by landed monopolies). He (2006 [1982], 351) writes, "[t]he level of absolute rent depends upon supply and demand conditions as well as upon the area of new land taken into cultivation". The two categories differ as "[w]ith absolute rent, landlords do not interfere with surplus value production directly" (ibid. 353). However,

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[24] Of course, Harvey has reviewed different conceptualizations of value and value theory throughout his illustrious career (see, e.g., Harvey 2006 [1982]; 2017). The point herein is that he has not incorporated the labor theory of value empirically into his SMLR and his analyses of urban land rent.

"[m]onopoly rent actively curtails surplus value production (though not, of course, when levied on consumption) and forces a redistribution of surplus value from other sectors not into agriculture but into the hands of the landlords" (ibid.). And he concludes, "[b]oth kinds of rent depend, however, upon the ability of the capitalist producers to realize monopoly prices" (ibid.). The monopoly pricing mechanism, by definition, is dissociated from production processes and is, therefore, independent from the dynamics of the organic composition of capital. Harvey justifies his methodological choice by his critique of Marx's notion of the organic composition of capital. However, as we have seen in Part II, Harvey's argument against the organic composition of capital does not exhaust the empirical evidence.

10.4.2. Harvey, Absolute Rent, and the Transformation Problem

Further elaborating his critique of the category of absolute rent, Harvey (2006 [1982], 351) adjourns any reliable application of the concept of absolute rent (even in agriculture, where there seems to be less debate about its relevance among urban economic geographers) to resolving 'the transformation problem'. He (ibid.) writes, the notion of absolute rent's "validity has frequently been attached to the successful resolution of the so-called 'transformation problem'". Both the concept of absolute rent and the transformation problem are closely related to the question of value. And if the transformation problem is valid, the labor theory of value is to be rejected, and so is absolute rent, which is what Bortkiewicz (Bortkiewicz 1919, 173 in Fratini 2018, 972) did. All these seeming theoretical tensions in Marx's economic theory leads Harvey to conclude, "Rey's (1973) characterization of Marx's theory of absolute rent as a 'fiasco' is partially correct in the sense that there is a lot of elaborate theorization about what ends up being of minor importance" (Harvey 2006 [1982], 352, footnote).

One point needs to be addressed early on regarding Harvey's view on (and application of) 'the transformation problem'. The 'problem', for Bortkiewicz and subsequently, the Sweezyeans, is first and foremost mathematical and, therefore, is formulated in terms of modeling consistency (Shaikh 1982). Both Sraffa (1926) and Sweezy (1970 [1942]) later attempted to reformulate 'the problem' for their respective analytical frameworks to explain prices, demand, and monopolies. That does not seem to be the case for Harvey. Harvey shows no attempt to operationalizing 'the problem' into geographic research. Instead, he takes it for granted as a point of departure. Harvey starts his discussion with an interesting (though not at all exhaustive) introduction to the debate (2006 [1982], 64-68)[25]. After that brief introduction, he does not discuss it until where he writes, absolute

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[25] This section needed to be entirely updated, at least in the 2006 version of the *Limits*, to include later interventions in the debate since the late 1970s (e.g., Kliman 2007; Freeman 2010; Foley 1982; Moseley 2016; Roberts 2016a; Shaikh 1977; 2016; Yaffe 1976). Alas, it was not.

rent's "validity has frequently been attached to the successful resolution of the so-called 'transformation problem'" (ibid. 351).

His critique implies that since absolute rent requires an analysis of values, it cannot be used for a framework that considers 'the transformation problem' a valid critique of Marx's theory of value. And if that is the case and one accepts that critique, then class-monopoly rent, instead, is to be analyzed in terms of monopoly rent and monopoly pricing mechanism (Harvey 1974a, 241). That is a valid and theoretically consistent conclusion.

The transformation problem, if proven, is significant (as argued among others by Fratini 2018, 962; Harvey 2006 [1982], 355; Ramirez 2009; Scott 1976), in that it would negate the possibility of absolute rent altogether. The existence of excess sectoral profits in rent-bearing sectors due to the difference in the sectoral organic composition of capital so central in the conceptualization of absolute rent would become irrelevant should the transformation problem be proven valid. Besides, as Fratini (2018, 962) argues, the difference between sectoral values and prices of production, determined through inter-sectoral competition, sets "the upper limit of absolute rent". Therefore, the absence of such a difference means the absence of excess sectoral profit rates in extractive sectors; hence, no absolute rent. This latter point is analytically crucial, as for those scholars who decided to apply the concept of absolute rent but at the same time accept the transformation problem, absolute rent would have no upper limit or ceiling. Thus, absolute rent in such formulations appears as a form of rent levied due 'only' to the existence of landed property as a barrier to the free flow capital between plots with no ceiling. In other words, it would be "essentially equivalent to monopoly rent", i.e., a rent, which arises from monopoly prices over land plots (Fratini 2018, 962).

Bortkiewicz argued that "Marx was not able to prove in any way that the concept of absolute ground-rent he formulated, understood as an excess of the value above the price of production of the agricultural products, corresponds to something real in the process of price formation" (Bortkiewicz 1919, in Fratini 2018, 972). If this critique is valid, then, as Fratini concludes, the concept of absolute rent becomes "theoretically unsound" (ibid.). In other words, in the absence of the labor theory of value, "if the class of landowners has the power to interfere with the normal capitalistic process of price formation and earn rent from that, this rent must be deemed due to monopoly pricing" (ibid.).

Fratini's (ibid.) point is that different categories of rent require different mechanisms to explain rent relations for Marx. He argues that if one accepts Bortkiewicz's critique of Marx, then the upper limit to absolute rent—assumed to be determined by inter-sectoral competition informed by Marx's labor theory of value—would disappear. However, he argues that even in the absence of such a limit, one cannot conclude that absolute rent is just a different name for monopoly rent and can be measured using monopoly prices (cf. Harvey's (1974a) argument for class-monopoly rent). In contrast to monopoly rent payment, "the payment of absolute rent is exactly what allows capitalists to remove the barrier raised by landed

property" (Fratini 2018, 981). The bottom-line of all this is that if one accepts Bortkiewicz's critique of Marx's treatment of value and prices of production, absolute rent quickly becomes irrelevant (also Bandyopadhyay 1982b, 186-187).

The concept of absolute rent implies that analyzing intra-sectoral dynamics (via differential rents) is inadequate for understanding what regulates the rent rates and ceilings at the macro-level. One needs to go beyond sectoral limits and analyze inter-sectoral dynamics and competition to explain the processes regulating rent rates (also Fine 2019). That way, rent creation and appropriation are structurally related to the dynamics of productive capital at both micro and macro levels.

The relevance of the labor theory of value to rent theory is straightforward. Prices at the micro-level fluctuate too frequently. The labor theory of value represents a macro-level theoretical model to explain long-term trends and patterns of micro-level price fluctuations while also structurally explaining the dynamics between different branches of the economy. The concept of absolute rent does the same for rent (as the relative price of land). All rents on a price level are the results of monopolies. Monopoly pricing might exist for individual sites/plots. But it takes inter-sectoral competition to unfold the drivers and regulating conditions of rent creation and appropriation. Rejecting the concept of absolute rent on the basis of the transformation problem, as theoretically justified as it is, strips the subsequent rent theory from such empirical sophistication.

More importantly, the critics of Bortkiewicz's thesis, despite their vast differences, have at least one common denominator, that 'the problem' is not mathematical or even theoretical, but at least partly a misinterpretation of Marx's theory of value. And their main common critique of Bortkiewicz's thesis comes from a somewhat straightforward fact that production takes time, and the values of the input and output cannot be treated as the same (Kliman 2007); hence, no transformation problem. As Kliman (2007, 21) writes,

> a commodity's value is determined by the average amount of labor currently needed to produce it. . . the phrase 'currently needed to produce' reflects the idea that the value of newly-produced items determines the value of already-existing ones. . . the phrase 'average amount of labor' [means] any labor spent on the production of a commodity in excess of what [Marx] calls the socially necessary labor-time does not count as value-creating labor.

This latter point is crucial as it explains the competitive relation between less and more efficient producers (or non-regulating and regulating capitals, as Shaikh calls them).

Kliman (ibid.) further elaborates that "a commodity's value is the sum of two components": a) "value transferred from used-up means of production", and b) new value added by living labor. "The amount of value transferred is the amount of value that is needed to acquire the means of production (rather than their own value)" (ibid. 22). This 'needed' amount of value transferred "depends upon [a] the current cost, rather than the historical cost, or original cost, of the means of production, and

[b)] the socially average expenditure on the means of production" (ibid.). Thus, Kliman concludes, "if the efficiency with which a particular firm uses inputs is greater than (less than) the industry average, its actual expenditure will be less than (greater than) the sum of value transferred to its products" (ibid. 22).

Measuring the amount of value transferred is at the core of the controversy. As the proponents of the transformation problem take the value of input and output simultaneously, they believe that Marx's 'solution' is inconsistent as it is not clear how consistently prices of production could be transformed into values–i.e., the numbers do not add up. But as Kliman (2007; 2012) and others have demonstrated, the entire transformation problem stems from a misunderstanding of Marx's theory, which at the same time stems from having an entirely different economic theory (Shaikh 1977; 1978; 1982; 2016). In other words, methodologically speaking, presumptions of the transformation problem are inconsistent with Marx's 'turbulent competition theory' and are consistent with an imperfect competition theory. So in that sense, their critique is methodologically invalid.

Harvey's solution to the absolute rent problem is to advance an alternative category of class-monopoly rent (as a novel auxiliary hypothesis, in a Lakatosian sense). The concept of class-monopoly rent is inferred to explain monopoly prices in land markets at the macro-level. However, a class monopoly does not explain rent rates, ceilings, and magnitudes, nor does it explain the drivers and mechanisms of those monopoly prices without referring to the power of landlords. Thus, it needs to incorporate exogenous forces to do so. Harvey relates it to the power of a class of speculator-developers over land markets through institutional and regulatory "arrangements" (Harvey 1974a, 243). Such arrangements are required to secure "certain minimum rates of return" below which speculator-developers would refuse to enter the business (ibid.).

However, he does not explain what drives the sectoral (monopolistic) rates of return and writes, "[w]hat the minimum must be is difficult to say—but in the United States a 40 per cent rate of return is not regarded as abnormal" (ibid.). He adds that his observations show that it is unlikely that the rent could benefit the low-income tenants. "It seems reasonable to postulate, therefore, an hierarchical structure of some sort through which class-monopoly rents percolate upwards but not downwards" (ibid.). All is to the benefit of finance capital, as "[a]t the top of this hierarchy sit the financial institutions" (ibid.). And finance is to ensure that spatially fixed assets in urban land markets are liquidated for further speculation. The whole arrangement explains capitalist urbanization as an outcome of the circulation of capital through which developers and speculators go hand in hand to further exploit low-income tenants. And as it happens outside of the production sphere, manufacturing capital is not the agent of exploitation in this process because the profits have nothing to do with it.

Whereas, for the TILR, the concept of absolute rent was articulated as an economic mediator with the help of which industrial capital is just as much involved in the exploitation in the social reproduction sphere, here the urban social life,

because land rent is regulated by fluctuations of inter-sectoral profit rates at the whole-economy level. And the minimum level below which investors refuse to invest in land is measured as interest rate and not some arbitrary 40 percent figure. Keynes' argument for the relation between marginal efficiency of capital (i.e., expected profit rate) and interest rate will be a better starting point, even though it is inadequate as it lacks the variable of rent (see Chapter 11).

10.5. Conclusion

All that is to say, the exclusion of the concept of absolute rent in Harvey's SMLR is a methodological strategy in terms of internal consistency and certainly not a methodological 'error'. The competition theory used in the SMLR, appropriating Shaikh's terminology, is the theory of monopolistic competition. The concept of absolute rent is inconsistent with that theory. Harvey wrestled with integrating the concept of absolute rent into his model in the 1970s (Harvey and Chatterjee 1974). He finally opted against it (Harvey 1974a; 2006 [1982]) to remain internally consistent. That is a scientifically legitimate and rational decision.

Be that as it may, this analysis refutes the argument that the notion of absolute rent is categorically and empirically irrelevant for urban research[26]. This brings us back to the typology of rent theories. Categories of rent that each of the two interpretations of Marx's economic theory that I discuss here deduces corresponds to their respective theories of competition. Shaikh's theory of turbulent competition allows for Marx's original categories of differential rent I, differential rent II, and absolute rent. And the Sweezyan theory of monopolistic competition, which informs Harvey's SMLR, allows for differential rent I, differential II, and class-monopoly rent.

The Harveyan interpretation of Marx's rent theory, as manifest in the SMLR, is consistent with core assumptions of the theory of monopoly capitalism. Therefore, the rejection of the notion of absolute rent stems from a paradigmatic choice as a scientifically legitimate move in terms of internal consistency. The turbulent inter-sectoral competition is central to the notion of absolute rent. It is, however, inconsistent with the core assumptions of any theory of imperfect competition, including the theory of monopoly capitalism. That explains why Harvey and Harvey-inspired urban economic geographers repudiated to incorporate the concept of absolute rent in the last five decades. And perhaps why the SMLR cannot be easily appended with the concept of absolute rent and the TILR's alternative

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[26] Later, Harvey seems to equate rent with all sorts of monopoly pricing, and more specifically, in the art market (Harvey 2002). The TILR would consider that analogy problematic as it views rent to be extracted from resources as nonreproducible conditions of production and not scarce commodities (such as paintings) whose prices rise according to demand.

analytical tools I presented in Part II without making the SMLR inconsistent with its underlying economic theory.

The critique need not delve into an esoteric Marxological debate to prove Bortkiewicz's neo-Ricardian critique wrong. Textual and conceptual analyses are necessary to establish the foundations of the argument, as Bruegel (1975), Ive (1976), Yaffe (1976), Murray (1977; 1978), Sandemose (2006), Das (2017), and others have shown. Others have attempted to disprove the neo-Ricardian critique by developing alternative models (Kliman 2007; 2012), articulating a methodological critique (Freeman 2010), or by demonstrating the rigor of economic measurements (Roberts 2016a; 2020a; Shaikh 1978; 2016; Shaikh and Tonak 1994). Shaikh, for instance, argues that the neo-Ricardian critique is internally inconsistent because a) it relies on exogenous (political, institutional) forces to explain monopolies, b) it does not explain how monopolies or oligopolies compete, c) it is based on the same assumptions it claims to refute, i.e., perfect competition, and d) it trusts neoclassical methodology for empirical analysis.

Nevertheless, Sweezy's monopoly capital school is a legitimate tradition putting forward a legitimate interpretation of Marx's economic theory. The question is, does it offer a framework for an exhaustive and consistently structural explanation of capitalist urbanization processes with rent theory? The SMLR's weakness is not that it differs from other (more orthodox) interpretations of Marx's economic theory. The Harveyan interpretation aims to explain urban spatial dynamics structurally, i.e., in terms of the dynamics of capital. However, in the absence of the concept of absolute rent, spatial dynamics are related to exogenous monopoly relations (governed by ideological and policy choices) and not to endogenous inter-sectoral dynamics in terms of the dynamics of productive capital as a crucial economic structure governing ideological and policy choices. In other words, the SMLR's underlying economic theory prevents it from providing a consistently endogenous structural explanation, on the one hand, and from incorporating the TILR's solutions as a protective belt, on the other.

Chapter 11. The Turbulent Inter-Sectoral Model of Land Rent (TILR)

The TILR rivals the SMLR by a) offering analytical tools for pinpointing the presence of absolute rent and measuring and explaining its rate, ceiling, and magnitude, b) explaining the historical contingency of rent creation and appropriation, c) incorporating the dialectical relationship between micro-foundation and macro patterns into the analysis, and d) explaining rent creation and appropriation structurally and in terms of the dynamics of productive capital. The source of land rent, according to the TILR, is excess sectoral profits (determined by the state of turbulent inter-sectoral and intra-sectoral competitions), and capital moves to rent-bearing sectors should differential inter-sectoral profit rates move higher in those sectors. The TILR does all this by bringing in the concept of absolute rent (dismissed in Harvey's model according to its internal logic) to analyze capitalist urbanization processes.

The most influential non-Marxist critics of the notion of absolute rent in particular and Marx's rent theory in general (i.e., Ball 1977; 1985; Evans 1991; 1999a; Haila 1988; 1989; 1990; Scott 1976) identify three (one theoretical and two theory-data) inconsistencies, the first two of which are also shared by Harvey, in Marx's conceptualization of absolute rent. They argue that the concept of absolute rent becomes irrelevant to urban research 1) if one forms the theory around 'the transformation problem'; 2) if one does not regard the organic composition of capital as low in the sector under study (here, the construction and built environments); 3) if the landed property itself does not appear as a barrier against the movement of capital onto the land.

More importantly, according to them, the main problem with the concept is that it cannot be used in the microeconomic analysis of the fluctuations in the land markets and property values (i.e., market prices). In other words, the Marxian rent theory (and its category of absolute rent, in particular) appears too theoretical to be used in real estate economics. Haila (1990, 282), in particular, uses Harvey as an illustrative case for such an intellectual tendency. Their critique of the Marxian rent theory targets the source of the theory's radical stance vis-à-vis spatial inequalities in the capitalist city (which emphasizes social conflicts over land relations). They find it normative and not adequately economic.

As Marx argues, the nature of all rent is monopoly. The monopolistic character of the rent business is therefore given. Any sophisticated rent theory (Marxian or neoclassical) should explain the economic drivers of rent and structures behind its creation and appropriation. The SMLR goes beyond the neoclassical and institutionalist approaches alluded to above and does this partially. The TILR, informed by an economic theory capable of analyzing capitalist competition's turbulent character, improves the SMLR in this task.

Rent theories aim to explain the character, magnitude, rate, and ceiling of rent. Any theory of rent should explain not only the character (or 'form') of the rent (i.e., differential, absolute, class-monopoly, and so on) but also be able to measure and explain its rates, magnitudes, and ceilings. The SMLR deals with the macro-level rates and ceilings of land rent inadequately and fails to offer proper analytical tools for measuring and explaining rates and magnitudes of rent.

The TILR offers an economic structural explanation, compatible with empirical methods for calculating rents, that endogenously relates rent creation and appropriation to the dynamics of productive capital, all of which are conceptualized with the notion of absolute rent. Capitalist economic relations have opened space for landownership for capital to pocket rent as part of excess returns on investment on land to compensate for the periodic decline of profitability in the manufacturing sector. That is crucial for understanding rent in modern urban contexts, where the state (national or local) and a few large-scale landowners notwithstanding, the majority of land plots are owned by industrial investor-capitalists (Murray 1977; Shaikh 2016). The TILR provides a multi-dimensional portrait of the land market in terms of long-term inter-sectoral and multi-scalar dynamics.

My point is somewhat simple in its formulation. The three economic categories of profit, interest, and rent are to be taken contextually in the light of intra-sectoral and inter-sectoral competition (see Figures 11.1). Their rates and interplays are similarly to be assessed comparatively. That means should, at a given time and space, one or two of them (as components of sectoral rates of return of investment) fall below the other, capitals, 'as such', tend to move to (or invest in) the sector with higher expected returns. The difference is that since interest rates, as Keynes (1964) also demonstrates, are tied to fluctuations of profit rates, interest rate cycles would follow profit rate cycles. But rent rate cycles (driving investment in landed property) would go in the opposite direction. The investment in land is not usually the same as hoarding land (i.e., speculation that future prices will be higher), but for some productive activity on land. And the aggregate sectoral rate of return in rent-bearing sectors is a sum of the rate of return on the products and the rent component.

If we include scale and multi-scalar relations to the model, the result will reflect the spatial impact of the long-term horizontal movement of capital, understood in terms of long-term vertical movement of capital. Furthermore, by including time, the flow of capital would be historically and geographically contextualized to demonstrate various plausible scenarios for such vertical and horizontal flows. Having a set national level for wages (indicated in, e.g., the form of minimum

wages), for example, reflects that different sectoral rates of wages are to be equalized in the whole economy.

Rent, in this context, is created endogenously in the economy, i.e., in terms of the dynamics of productive capital, resulting from long-term vertical (scalar) and horizontal (sectoral) movements of capital at the macro-level. Thus, rent creation and appropriation are dialectically determined in relation to the rest of the economy, not exogenously, as implied in the SMLR. It should be noted that the sectoral distinction presented here is at the conceptual level, meaning, even in the case of the large-scale manufacturing industry actively involved also in financial and land markets, profit, rent, and interest components of total rates of return, each, are considerably affected by their respective sectoral dynamics.
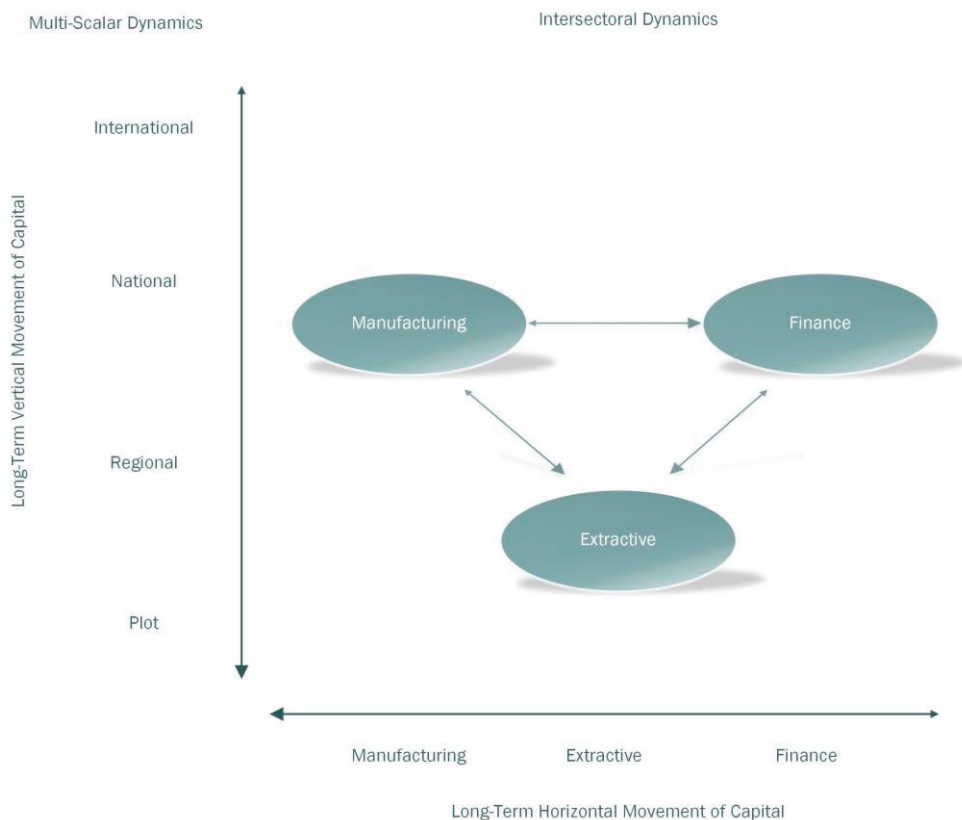
Figure 11.1 Inter-Sectoral Dynamics in the TILR

At the same time, this argument implies that if (aggregate) rents fall to a point where the overall rate of return on investment in rent-bearing sectors is lower than the industrial rate of profit and financial rate of interest, there would be no capital flow

onto the land, as witnessed in Dubai land markets in the mid-2000s (Davis 2006)[27]. It also implies that if, hypothetically, profits fall below rents, but rents fall below interests, again, capitals will not flow onto land but would move to finance. If profits do not fall at all, the movement of capital remains in favor of the manufacturing sector. All that is to say, to understand the movement of capital properly, one needs to study the barriers of the movement to all three sectors empirically and then put the results in the light of multi-scalar relations to anticipate the movements at the plot, regional, national, and international levels too. That is especially important when the origins of the type of capital understudy are to be traced. An example of it would be the case of the United States since the Great Recession when following the fall in the US manufacturing profit rates, capitals first moved to finance (through hedge funds) and then to private rental housing markets in other countries such as Spain or large-scale land acquisitions (or, land grabbing) in the developing world (Yrigoy 2020). A city-level or even a national-level analysis, on its own, could not explain such processes comprehensively. These scalar dynamics are particularly crucial in housing (housing policy and housing movements), where the local dynamics are heavily shaped and conditioned by nationally determined land strategies and national economic structures. And these macro-level structures inform local agents' (both state or social movements) options and decisions.

All this, of course, is explained at a capital-as-such (i.e., aggregate) level. Individual capitals (particularly smaller capitals) might still feel the pressure to move (or stay put), even when the comparative relation described here is not happening. In other words, if the return on investment for the current investment (for each individual capital) falls below the expected profit, they would move to other sectors (or do not move at all). What determines high returns at the micro-level is, to a great extent, demand. Rent theory is designed to explain (contra neoclassical economics) why there could be such high demands in specific sectors or plots. And the concept of absolute rent provides the opportunity to analyze long-term, structural land relations under capitalism in a non-static fashion.

Harvey's SMLR elaborates (and explains) one structural scenario for the capital flow onto the land. At the risk of oversimplification, this scenario implies that the overaccumulation crisis necessitates spatial expansion (through the production of space), leading to inequality and low effective demand. A competing scenario for the capital flows onto the land (presented by the TILR) is proposed in terms of comparative sectoral rates of return. The sector with potentially higher rates (to investors' expectations) attracts a sizeable chunk of investments, thereby determining the direction of the capital flow. Profit rates and the manufacturing

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[27] In another example, following the supply shock caused by the covid-19 pandemic in some countries, capital flowed onto land markets. For instance, in Sweden, building permits for new construction increased 29 percent in 2020 (increased from a total of 3500 and 3550 in 2018 and 2019 to 4600 in 2020) (Statistics Sweden 2021), whereas, in other countries such as the United States and China, capital flowed onto fictitious cryptocurrency and non-fungible token markets (Mariana et al. 2021; Chen et al. 2021).

sector are at the core of such dynamism, as Keynes also corroborated, and the other sectors attract the capital flow when and where expected profit rates fall below expected rent rates or expected interest rates. Depending on the historical and geographical context, this could lead to a rise in either land or financial investments to avoid a further and deeper slump. Overaccumulation could happen in response to a fall in general profits. However, a) it is not the principal cause of capitalist crises, and b) it does not govern (or stimulate) the flow of capital onto land to the extent inter-sectoral competition and profitability cycles do.

For Keynes (1964), the marginal efficiency of capital (i.e., expected profit rate) needs to be higher than the interest rate for real (i.e., productive) investment to happen. This is because the present value of expected returns on capital needs to be larger than the current cost of capital. In other words, the marginal efficiency of capital needs to be larger than the interest rate, or else investors tend to hoard money or save. According to Shaikh, the difference with Marx is that "Keynes takes the expected rate of profit (marginal efficiency of capital) as exogenous in the short run", whereas, for Marx, "it is regulated by the actual rate of profit over the longer run" (Shaikh 2016, 577, footnote). Finance is understood as the mobilization of total surplus and allocating them to the most efficient investment opportunities. It is in that sense that the fluctuations of the interest rate are tied to fluctuations of the profit rate.

The TILR implies that the expected profit rate needs to be higher than both the interest rate and the rent rate for productive investment to happen. And the differential inter-sectoral profitability governs the rate and ceiling of land rents. Thus, one could update Keynes' equation to incorporate the three variables of expected profit rates (Pr), expected interest rates (r), and expected rent rates (Lr). That is to say, productive investment needs the expected profit rate to be larger than both the interest rate and the land rent rate (i.e., $Pr>r>L_r$). Figure 11.2[28] visualizes these three scenarios as three volumes.

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[28] I thank my friend, Peyman Hamed, for his technical support in creating this figure.
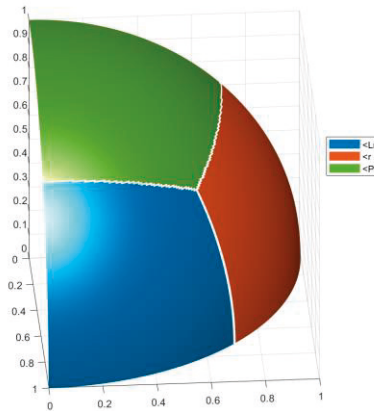
Figure 11.2 Conceptual Visualization of Inter-Sectoral Rates of Return

But there is more complexity for this process to impose capital switching. According to Shaikh, the theory of turbulent competition "conceives of profit rate equalization as a dynamic and turbulent process" (Shaikh 2008, 167). He elaborates, "[i]nvestment flows into an industry are motivated by the expected rates of return on those potential new investments that embody the best-practice conditions of production" (ibid.). Shaikh calls these new investments regulating capitals.

He argues that "[t]here is no single expected rate of return in any given industry, but rather a diverse set of expected returns that are revised continually in the light of actual outcomes" (ibid. 168). So he elaborates, "if the regulating profit rates in a given industry are higher than the economy-wide average, production in this industry will accelerate until the supply in the industry grows more rapidly than its demand" (ibid.). In the case of the construction sector, this process is evident in the rise of new constructions. The process implies that competition is led by lower-cost regulating capitals (who set the expectation in terms of rates of return) and by leaving aside higher-cost capitals. It also implies that "there is never a moment in which all capitals within an industry operate under the same conditions of production" (ibid. 169). That is why "competition between industries leads to a process of entry and exit of capital in search of higher profit rates" (ibid.).

All of this means an average rate of profit would be inadequate for measuring the influence (in terms of profit rate) of regulating capital. So instead, Shaikh suggests measuring rates of return of the most recent investment, which he calls the incremental rate of profit (ibid. 171; 174). It is this incremental rate of profit for different branches of the industry that demonstrates the frequent capital switching between industries that corresponds to changes in rates of return of the stock market (ibid. 174; also Shaikh 1998, 371), and which Harvey (1974a; 1978; 1989) articulates (and generalizes) as switching from the primary circuit to the secondary circuit of capital.

The organic composition of capital (as capital-labor cost ratio) explains why land (and extractive sectors in general) could engender higher comparative expected returns for investment when and where profits fall short. It also usefully explains the competitive relation between manufacturing and extractive (rent-bearing) sectors. High levels of rent in rent-bearing sectors mean capitalists who invest in those sectors can refrain from investing in labor-efficient technologies and still enjoy somewhat high comparative returns.

That means, in the absence of absolute rent, in order to survive in the competition, that is, in order to operate under relatively low costs and relatively high expected profits (both compared to the existing regulating capital), the new investor requires meeting the frontier technological level (set by the existing regulating capital around whom sectoral competition gravitates). On the other hand, in the presence of absolute rent (i.e., when total manufacturing profit rates are lower than total rent rates), the newcomer could avoid meeting the frontier technological level, operate even with a lower technological level than the one set by sectoral regulating capitals, and thanks to land rents, still enjoy high rates of return. That, of course, depends on their ability to acquire land as a scarce and nonreproducible condition of production.

In other words, even if, at a given time and place, technological innovations have provided reasonably-priced new labor-efficient technologies to use in the construction of five-story buildings, if profit rates are relatively lower than rent rates, capitals in the construction sector could refuse to invest in that technology, rely heavily on cheap labor (i.e., to operate labor-intensively), and still, pocket excess rates of return (in the form of profit rates on the construction process plus rents on land). At the local level, in the presence of macro-level rents, the main driver of land use would be differential rent I and II and the ways in which they interact as extensive and intensive investment strategies. And their magnitudes will be added to the magnitudes of absolute rent to the total magnitudes of land rent.

The existence of rent explains why prices of products in rent-bearing sectors are regulated by the regulating capital operating under the worst condition of production. In contrast, prices are regulated by the regulating capital operating under the best condition of production (the most efficient one) in the manufacturing sector. The absence of rent in the manufacturing sector means capitalists compete heavily over the highest and best use of resources. That means seeking the highest possible profits and lowest possible costs, putting in use the most recent labor-efficient technologies already set by the current regulating capital, and investing heavily in innovative labor-efficient technologies through research and development.

Harvey conceptually replaced soil fertility in Ricardo's (and Marx's) rent theory with favored location (or relative locational advantage) in urban space. Location, however, does not have the same level of materiality as fertility, and 'favored location' overall is a subjective matter. But the favored location can be explained in two terms: 1) what Harvey calls relative space, that is, in relation to what happens in the surrounding area in terms of geographical (spatial) development; 2) regional inter-sectoral relations, that is, in relation to economic development in the

surrounding area, i.e., the economic aspect of the location. The TILR improves the SMLR with this second point.

The analysis of relative space is crucial in determining the intensity of the intra-sectoral competition that governs differential rent I and II. Absolute rent represents the magnitude of rent when differential rent is zero (in the marginal plot). Conversely, when differential rent is not zero, absolute rent would add to the total magnitude of rent.

Absolute rent will be neutralized, provided the land is nationalized. It can be minimized, provided a) land is municipalized, or b) profit rates restore and rent rates, as such, fall below profit rates. In that case, individual plots could still generate rent, but rent cannot be the sectoral land strategy. For Marx, the notion of absolute rent implies that if perfect competition theory was correct, capitalism should have nationalized land long ago. It has not (and perhaps could not) because rent extraction comes in handy when manufacturing profits fall. In that sense, rent is a reality *and* a necessity in modern capitalism, and its role is to mitigate the impact of the falling profit rates and prevent the system from an impending collapse. Thus, instead of pushing for the nationalization of land, capitalists pushed for capitalist land acquisitions to redirect land rents to themselves instead of traditional landowners.

The TILR improves on the SMLR by 1) proposing a whole-economy level analysis that explains historical contexts (i.e., historical contingency of rent creation and appropriation), 2) developing an empirical strategy to measure and explain land rent rates, ceilings, and magnitudes at both macro and micro levels, 3) offering an analysis of differential rent I and II and their interaction with macro-level dynamics of rent, in terms of economic and spatial development, and 4) offering a consistently structural analysis of urban capitalist land relations that relates rent's creation and appropriation to the dynamics of productive capital.

Conclusion

Harvey criticized neoclassical urbanization models that analyze investment choices in terms of investors' behavior and consumers' preference by drawing attention to economic structural relations governing location and investment choices (see Chapter 3). Land rent theory plays a crucial role in his analysis of capitalist urbanization. Overaccumulation crises, according to Harvey, create (and are intensified by) uneven geographies of capitalist development. In response, capital tends to switch from the primary circuit (i.e., productive investments) to the secondary circuit (i.e., investments in built environments) to produce spatial externalities to absorb the surplus capital. Land rent, which arises due to monopolistic land ownership, is of crucial importance to Harvey as it constitutes a barrier to the free flow of capital (i.e., capital switching). Harvey's interpretation of rent theory is presented in his Spatial Monopoly Model of Land Rent (SMLR).

The SMLR generally draws on Marx's rent theory and the rent categories he conceptualized. However, Harvey finds Marx's third category, absolute rent, irrelevant for urban research and conceptualizes an alternative category called class-monopoly rent to replace absolute rent in his model. This methodological and conceptual strategy, however, does not account for all the available empirical evidence (see Part II).

Reflecting on the reasons for the model's failure to explain empirical evidence, I have elucidated some limitations and weaknesses of the SMLR. The most important among them are:

    1) above and beyond a monopoly pricing mechanism, the model offers limited analytical tools for empirical research on rent rates, ceilings, and magnitudes;

    2) the model offers inadequate economic mechanisms for macro-level (i.e., whole-economy level) patterns of rent creation and appropriation;

    3) it offers an inadequate explanation for the historical contingency of macro and micro-level rent creation and appropriation;

    4) it breaks with its structural starting points and does not offer a consistently endogenous structural analysis of rent creation and appropriation (see Chapter 1).

The alternative Tubulent Inter-Sectoral Model of Land Rent (TILR) that I tried to elaborate on in this monograph improves on the SMLR and resolves its theory-data and data-data anomalies by bringing in the long dismissed concept of absolute rent

(Chapters 1 and 11, also Appendix 1.2). The model integrates long-terms inter-sectoral and multi-scalar dynamics of capital. Supported by analytical tools for measuring and explaining rent rates, ceilings, and magnitudes at both macro and micro levels, the model also explains the historical contingency of rent creation and appropriation. More importantly, by relating rent creation and appropriation to the macro-level dynamics of productive capital, the model offers a consistently endogenous structural explanation.

The two models' explanatory powers in dealing with the anomalies are empirically compared in three empirical studies. The first study (see Chapter 6) involved a critical reevaluation of Harvey's two seminal empirical studies on Baltimore. It aims to compare the analytical tools the two models offer at the conceptual level. These tools are also used to comparatively analyze the historical contingency of rent creation and appropriation. The second study (see Chapter 7) involved a critical reevaluation of the operationalization of the SMLR in Stockholm by Clark. It aims to compare the two models' explanatory powers for the structural analysis of rent creation and appropriation. The study shows that the TILR fares better than the SMLR by drawing attention to macro-level economic structures behind agential policy choices in urban Sweden. Finally, in addition to a structural explanation of rent relations in urban Iran, the third study (see Chapter 8) operationalized the TILR to explain macro-level inter-sectoral and multi-scalar relations determining rent rates and their impact on urbanization processes.

The TILR improves on the SMLR by incorporating alternative analytical tools to measure and explain rent rates, ceilings, and magnitudes and resolves its theory-data anomalies by bringing in the concept of absolute rent. However, further analysis of theoretical inconsistencies was required to a) explicate the rationality of the SMLR's tenacity in dismissing the notion of absolute rent and b) elucidate why the SMLR cannot be easily appended by analytical tools offered by the TILR without inflicting further theoretical tensions (see Chapter 10).

Inspired by Shaikh's typology, the study argues that both models are theoretically rooted in equally sophisticated interpretations of Marx's economic theory. The influence of the Sweezyan theory of monopolistic competition on the SMLR is well-established. The concept of absolute rent is inconsistent with core assumptions of the theory of monopolistic competition. The theory relies on exogenous, i.e., extra-economic, barriers to the free movement of capital (the power of the landlord class) to explain excess rates of capital return and the level of rent.

Inspired by this theory of monopolistic competition, Harvey refers to a theory-data anomaly and a theoretical inconsistency to critique the concept of absolute rent. First, according to Harvey, the concept is based on an ostensibly problematic notion that sectors yielding rent show lower organic compositions of capital. Second, the concept is based on the assumption that Marx's argument for the transformation of values to prices of production is internally consistent. I have considered and rejected Harvey's two reservations about absolute rent in this monograph: the first anomaly is contested on empirical grounds in Part II (see Section 6.3), and the second on

methodological grounds in Part III (see Section 10.4.2). Now the point logically arises here: why not simply append the category of absolute rent to Harvey's SMLR model? I have argued (see Chapter 10) that what the TILR contains as a response to the weaknesses of SMLR (offering alternative analytical tools and bringing in the concept of absolute rent) is inconsistent with core assumptions of the underlying economic theory of Harvey's SMLR. In this sense, despite its internal consistency, the SMLR suffers from internal theoretical tensions hindering it from providing a consistently endogenous structural explanation of rent creation and appropriation.

The TILR is rooted in a competing interpretation of Marx's economic theory, forcefully restated by Shaikh recently as the theory of turbulent ('real' in Shaikh's usage) competition. The theory of turbulent competition that informs the TILR allows it to consistently incorporate the concept of absolute rent and provide a consistently endogenous structural explanation of rent creation and appropriation using the above-mentioned analytical tools to measure and explain rent rates, ceilings, magnitudes.

The results of this study have implications for both theory and practice. Some theoretical implications of the study are self-evident in that they point to the need to broadening the scopes of heterodox urban economic geography beyond Harvey's interpretation, not least to appreciate the diversity of approaches and scientific pluralism. But besides these points, the study's central analytical argument that, in contrast to, for instance, localist approaches, highlights the significance of integrating the national and local dynamics and analyzing national and local economic variables and structures has implications for urban geographic research, land policy, and urban movements. The analytical separation of the two scales limits the impacts of urban geographic analysis and practice as national-level economic structures shape and condition local-level urban policies (and, for that matter, urban inequalities).

That said, this study is primarily concerned with demonstrating the significance of absolute rent as a relevant concept to urban economic geography. Therefore, it is deliberately confined to pinpointing its relevance to urban research and empirically measuring and explaining its rates, ceilings, and magnitudes. Further studies are required to advance the study's theoretical and empirical conclusions on geographies of magnitudes of absolute rent (and differential rent I and II), based on the analytical tools presented in the present study. Further research is possibly also necessary on the rivalry between the neoclassical, institutionalist, and Marxist approaches in urban economic geography, and more importantly, on political (and agential) implications of the two rival models discussed, e.g., global geographies of national land policies, their relation to national economic structures, and their impacts on local urban strategies for both urban strategists and the demands of urban social movements.

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Appendix 1.
Rent Categories: An Overview

Empirically, all rent appears in the accounts as a total sum ("a lump sum" as Ward and Aalbers (2016, 1764) specify). Its character, magnitude, rate, and ceiling are to be explained theoretically. Different rent theorists conceptualize different rent categories, indicating the character of land rent as differential, absolute, monopoly, class-monopoly, etc. Each category entails variables to explain the other aspects theoretically and contributes to the total sum. That is to say, for instance, that in marginal plots, provided differential rents are zero, absolute rent contributes the most to the total rent, but in other plots, both differential and absolute rents contribute to the total sum. That is not to say, however, that magnitudes and rates of rent cannot be calculated. On the contrary, they can and they should, as demonstrated in Part II.

Appendix 1.1. Differential Rent

Ricardo conceptualized land rent as differential rent and measured it as the difference between the total (or aggregate) price of production and total regulating price. The total production price means the price at which the product is to be sold to maintain a normal profit for the respective type of capital, while the total regulating price means the price at which the product will be sold. The level of rent is determined by differential fertility. And since the survival condition of production in the marginal plot, in terms of rates of return, Ricardo argues, regulates the price of the produce, the least fertile plot indicates no rent, and all other (fertile) plots will gain excess profits, which constitutes rent (the highest excess profits, i.e., the highest rent level will be in the most fertile plot with the highest yield). Therefore, differential natural conditions of production in agriculture guarantee the rent in the more fertile plots.

In contrast to "vulgar economists" who treat rent as a direct factor of production (i.e., as the market price of land), Ricardo argues, "[w]hen land of an inferior quality is taken into cultivation, the exchangeable value of raw produce will rise, because more labour is required to produce it" (Ricardo 2004 [1911], 37). For "the exchangeable value" of the products is determined by the amount of labor time

required to produce the products in "the most unfavourable circumstances" (ibid.). Ricardo defines differential rent as "a surplus accruing to landlords because of different fertilities" (Murray 1977, 103). It arises from the proprietor's monopoly control over the fertile plots (Ricardo 2004 [1911], 39).

"Ricardo assumes that over time this process extends to ever-worse land [in response to an increasing demand for corn as the economy grows], with ever-higher (relative) prices of corn" (Shaikh 2016, 333). As inferior plots enter production, the product's market price will be increased to cover higher natural prices (or production prices) of plots with lower quality. Thus, the process contributes to higher average prices of agricultural products, which indirectly leads (as workers' demand falls) to an increase in wages, thereby lowering aggregate profit shares (Ricardo 2004 [1911], 41). Hence, the crisis. For Ricardo, in other words, differential rent is construed as a consequence of "diminishing returns to soil" (Economakis 2003, 341).

Marx critically improves on Ricardo's differential rent. First, it is not the labor time spent on a single commodity, says Marx (1969, 247-249; (with Engels) 2010 [1982], 260-262), that determines the value, but socially necessary labor time required to produce that commodity in the entire economy as a macro-level regulating condition. Socially necessary labor time is construed as the expected labor time above which the labor process is deemed unproductive. Second, a problematic labor theory of value (which fails to distinguish constant from variable capital), Marx argues, leads Ricardo to infuse profits to a natural factor, e.g., fertility. Third, according to Marx, Ricardo fails to understand fertility as a social process, meaning that it is determined by the technological development of the time and the intensity of investment by capital. Fourth, the excess yield and the subsequent excess profit that constitute rent, Marx elaborates, could be achieved by extending the land in use or more intensively investing in technology. Fifth, there is no evidence to accept Ricardo's argument that "economic growth leads to the use of land of ever-poorer quality" (Shaikh 2016, 336, footnote). Sixth, Marx argues, there is little evidence in practice to assume that rising rents will inevitably lead to falling profits. Instead, rising rents could lead to falling profits, rising profits, or even unchanged profits (Murray 1977).

All this led Marx (1991 [1894]) to think of two categories of differential rents. Differential rent I levied through equal quantities of capital advanced on plots with different fertility levels (i.e., an extension of land to increase the return or the extensive margin). And differential rent II levied through successive quantities of capital advanced on plots with a similar fertility level (i.e., intensive investment in the same plot, or intensive margin), e.g., with the help of chemical fertilizer (Shaikh Unpublished Lecture Notes[29]).

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[29] Notes from Shaikh's transcribed lectures on rent theory in the 1980s that he open-handedly shared with me.

Shaikh explains differential rent I and II as investment strategies, meaning depending on which one appears more economical (in terms of expected profit for a respective type of capital), the capital moves extensively (more acquisitions or mergers) or invest more intensively (incorporating more technologies to extract more from the land) (ibid.). The movement (and competition) between differential rent I and II, as investment strategies, is determined by regulating production conditions (i.e., worst available conditions of production and not the worst available land) (ibid.). It means moving to the next land (as in differential rent I) or going (metaphorically) deeper (as in differential rent II) depends on which strategy is deemed cheaper (lower costs) by the investor (ibid.). Empirically, and especially with differential rent I, the strategy depends on external circumstances, e.g., the condition of other (available) plots. In both cases, the capitalist would not invest/lease if the expected profit rate is lower than normal (that is, lower than the interest rate) for a capital of its type.

Differential rent I and II play a crucial role in urban economic geography and political-economic analyses of urbanization, particularly in the case of residential and commercial development (Harvey 2006 [1982]; 1985; also Edel 1976; 1992; Clark 2004). Harvey's most important contribution here is in his interpretation of the ways in which differential rent I and II operate in urban space. He argues that a dialectical interplay between the two categories of differential rent interacts with capital flows onto the land plot. The interplay allows the two types of differential rent to set limits and impose conditions on one another (Harvey 2006 [1982], 354-356; also Clark 2004, 150). As Fine elucidates, "Marx's theory of DR (1 and 2) is built around intra-sectoral competition to establish the value of differential productivity of capitals across the lands in use, thereby realizing these rents" (Fine 2019, 454). For the TILR, the intra-sectoral competition between firms in a given region sets the limits and conditions on rent levels and regulates the interplay Harvey conceptualizes.

Appendix 1.2. Absolute Rent

Marx further criticizes Ricardo by integrating the role of competition and inter-sectoral dynamics. He argues that there *is* a relation between rents and profits. However, unlike Ricardo's claim, it is not at the micro (i.e., firm) level but at the scale of the whole economy and in an inter-sectoral competitive context. That is to say, rent could rise as a consequence of a fall in profits in other sectors, but its rise does not necessarily lower profits within the same sector (as Ricardo assumes). Marx, therefore, conceptualizes a category that explains this structural relation between the rise of rent at the macro-level and long-term competition between sectors, and he calls it absolute rent. The differential sectoral profitability at the whole-economy level determines absolute rent's rate and magnitude (Marx 1991

[1894]; Murray 1977). According to Marx, at the macro-level, the equalization of rates of return between sectors creates rent, and the state of competition between sectors determines its limits.

"Absolute rent depends on three things:

    i)   The tendency of commodities to exchange at their value, and the modification of this tendency towards exchange at prices of production as a result of the free flow of capital between branches.

    ii)   The presence of low organic composition of capital in those branches yielding absolute rent.

    iii)   The reproduction of comparative monopoly power of landed property against capital in those branches" (Murray 1977, 109).

It begins with the distinction between the product's value and its production prices. The product's value is determined by the socially necessary labor time required to produce it in a given economy, while production prices reflect long-term, competitive, average prices that also encompass material costs (Shaikh 2016). Although the total production price in each economy is governed by total value (Marx 1991 [1894], 892), the actual production prices could be higher or lower than the value of the products produced in each sector. That is because different sectors require different amounts of labor time for their production. Marx (1991 [1894], 892) argues that labor-intensive sectors that require less machinery, equipment, etc. (i.e., the lower capital-labor ratio, or the organic composition of capital) than capital-intensive sectors could sell their products at their actual value and not at the average price (also Sheppard and Barnes 1990, 130). Rent is the difference between these two sets of prices, which appears as an excess profit (Murray 1977, 107). Typical examples of these could be agriculture, mining, other extractive sectors (forestry and fishery), and construction.

A category of rent that at the macro-level governs landlords' demand for payment in such sectors then is "independent of the differences in fertility between types of land or successive investment of capital on the same land" (Marx 1991 [1894], 894). Absolute rent "arises out of inter-sectoral competition to equalize the rate of profit across sectors via flows of capital to and from higher and lower rates of profit" (Fine 2019, 454). For the TILR, the state of competition between sectors regulates the excess profit (as the source of rent). Rent, therefore, goes up to the total excess profit (determined by differential profitability between sectors). This process is historically contingent, as the macro-level rent effects could be diminished should the excess profit in extractive sectors disappear, and their aggregate sectoral profit falls below that of the manufacturing sector. Harvey, however, finds this category "irrelevant" and "meaningless" for urban research (Harvey 2013 interview in Barnes and Sheppard 2019, 207; also Harvey 2010, 81).

Appendix 1.3. Monopoly Rent

Harvey says, "Marx does not develop monopoly rent but mentions it on the edges. But it has a clear relevance in urban situations" (Harvey 2013 interview in Barnes and Sheppard 2019, 207). Harvey considers monopoly rent relevant in two cases; a) "property owners who control land of such special quality or location in relation to a certain kind of activity may be able to extract monopoly rents from those desiring to use that land", and b) "landowners may refuse to release the unused land under their control unless paid such a high rent that the market prices of commodities produced on that land are forced above value" (Harvey 2006 [1982], 350).

Marx develops three rent categories: differential rent I and II, and absolute rent. Many geographers/urban researchers also include monopoly rent to rent categories (Ball 1977; 1985; Edel 1976; Evans 1988; 1991; 1993; 1999a; 1999b; Harvey 1973; 1974a; 2006 [1982]; 1985; Houghton 1993; Markusen 1978; Scott 1976; Swyngedouw 2012). As Harvey says (Harvey 2013 interview in Barnes and Sheppard 2019, 207), for Marx (1991 [1894]), monopoly rent is not developed as a distinct category (also, Manning 2020, 34). Rather, it is construed as a universal characteristic of all landed property, thereby rent, and defined in terms of monopoly pricing detached from the general dynamics of capitalist production in relation to land (Marx 1991 [1894], 971; 910).

Appendix 1.4. Class-Monopoly Rent

Harvey adds a category of rent to Marx's three categories to explain social conflicts and power relations over monopoly pricing on land. He finds it relevant in "any situation in which the rate of return to a class of providers of an urban resource (such as housing) is set by the outcome of conflict with a class of consumers of that resource" (Harvey 1974a, 239). Rent here is "the outcome of the conflict of interest" between a class of owners and a class of users (ibid. 243). Class-monopoly rent also allows for integrating finance capital into the picture. "When trade in land is reduced to a special branch of the circulation of interest-bearing capital," Harvey writes, "then, I shall argue, landownership has achieved its true capitalistic form" (Harvey 2006 [1982], 347).

The concept helps analyze the conflictive economic relation over land in class terms. Landlords and developers can claim land rent and extract the excess returns if and only if they act as a class. Land rent arises when landowners manipulate the supply and, for instance, keep the dwellings vacant in the case of housing. In doing so, they need to have a favorable legal and regulatory environment as well as a financial market that is developed and expanded enough to provide financial instruments to liquidate a spatially fixed asset such as land. In other words, class monopoly is the regulating condition for this category of rent. Class-monopoly rent

is considered crucial in spaces of social reproduction (including housing) and social redistribution of resources (Harvey 2006 [1982], 350).

Appendix 2.
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Appendix 3.
Data Sources

Appendix 3.1. Data Sources Used for Chapter 6

Rates of return data are taken from BEA's interactive data sources of NIPA, Asset/Wealth tables, industry tables, and regional accounts (accessed September 9-23, 2020).

BEA. National Data, GDP & Personal Income. https://apps.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey ;

BEA. National Data, Fixed Assets. https://apps.bea.gov/iTable/iTable.cfm?ReqID=10&step=2 ;

BEA. Industry Data, GDP-by-Industry. https://apps.bea.gov/iTable/iTable.cfm?ReqID=51&step=1 ;

And https://apps.bea.gov/iTable/iTable.cfm?reqid=147&step=2&isuri=1 ;

BEA. Regional Data, GDP & Personal Income https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1

Definitions:

Gross value added: GDP minus taxes on production and imports less subsidies

Gross operating surplus (gross profit): Gross value added minus compensation of employees

Net operating surplus (net profit): Gross operating surplus minus depreciation (of fixed assets)

National income: GDP minus depreciation (Consumption of fixed capital)

Gross investment: Investment in private fixed assets (historical or current cost)

Kliman's property income: GVA minus depreciation of private fixed assets (historical cost) minus compensation of employees

Kliman's rate of profit: Property income (or net operating surplus) divided by net stock of fixed private capital (historical cost)

Roberts' rate of profit: National income less compensation of employees divided by (net stock of private nonresidential fixed assets divided by compensation of employees plus 1)

Shaikh's rate of profit: Net operating surplus divided by net stock of capital

Shaikh's incremental rate of profit: The change in gross profit divided by lagged nominal gross investment (the previous year)

NIPA Tables:

Table 1.10. Gross Domestic Income by Type of Income

Table 1.12. National Income by Type of Income

Table 1.17.5. Gross Domestic Product, Gross Domestic Income, and Other Major NIPA Aggregates

Table 1.3.5. Gross Value Added by Sector

Table 5.4.3. Real Private Fixed Investment in Structures by Type, Quantity Indexes

Table 5.4.5. Private Fixed Investment in Structures by Type

Table 6.2 A, B, C, D. Compensation of Employees by Industry

Table 6.17A. Corporate Profits Before Tax by Industry

Table 7.5. Consumption of Fixed Capital by Legal Form of Organization and Type of Income

Asset/Wealth Tables:

Table 1.3. Current-Cost Depreciation of Fixed Assets and Consumer Durable Goods

Table 3.1ESI. Current-Cost Net Stock of Private Fixed Assets by Industry

Table 3.3ESI. Historical-Cost Net Stock of Private Fixed Assets by Industry

Table 3.4ESI. Current-Cost Depreciation of Private Fixed Assets by Industry

Table 3.6ESI. Historical-Cost Depreciation of Private Fixed Assets by Industry

Table 3.7ESI. Investment in Private Fixed Assets by Industry

Table 3.8ESI. Chain-Type Quantity Indexes for Investment in Private Fixed Assets by Industry

Table 4.1. Current-Cost Net Stock of Private Nonresidential Fixed Assets by Industry Group and Legal Form of Organization

Table 4.3. Historical-Cost Net Stock of Private Nonresidential Fixed Assets by Industry Group and Legal Form of Organization

Table 6.1. Current-Cost Net Stock of Private Fixed Assets by Industry Group and Legal Form of Organization

Table 6.3. Historical-Cost Net Stock of Private Fixed Assets by Industry Group and Legal Form of Organization

Table 6.6. Historical-Cost Depreciation of Private Fixed Assets by Industry Group and Legal Form of Organization

Regional Tables:

SAGDP3S Taxes on Production and Imports less Subsidies (National and regional; Total and Sectoral)

SAGDP7S Gross Operating Surplus (for regional and national GOS, total and sectoral)

CAINC30 Economic Profile

Industrial tables (GDP-by-Industry):

Value Added by industry

Components of Value Added by Industry

Figures:

Kliman-inspired aggregate private profit rates (Figure 6.5): Tables 1.3.5 lines 1, 5; 1.10 line 10; 6.3 line 1; 6.6 line 1; 6.2 line 3

Kliman-inspired corporate profits (Figure 6.4): Tables 1.3.5 lines 1, 4, and 8; 6.3 line 2; 6.6 line 2

Roberts-inspired total rate of profit (Figure 6.7): Tables 1.17.5 line 1; 4.3 line 1; 7.5 line 1; 1.12 lines 1, 2; 4.1 line 1

Shaikh-inspired corporate rate of profit (Figure 6.11): Tables 6.1 line 2; 1.3.5 line 8

Shaikh-inspired aggregate rate of profit (Figure 6.9): Tables 6.1 line 16; 1.10 line 9

Shaikh-inspired private sector rate of profit (Figure 6.10): Tables 6.1 line 1; 1.10 lines 10, 21

Kliman-inspired sectoral profit rates (Figure 6.6): Tables 3.3ESI lines 10, 11, 49, 55; 3.6ESI lines 10, 11, 49, 55; 6.2 lines 12, 13, 52; SAGDP3S lines 10, 11, 49, 55; value added by industry lines 11, 12, 54

Roberts-inspired sectoral profit rates (Figure 6.8): Tables 6.2 lines 12, 13, 52; value added by industry lines 11, 12, 54; 3.4ESI lines 10, 11, 49, 55; 3.1 ESI lines 10, 11, 49, 55

Shaikh-inspired sectoral profit rates (Figures 6.12 and 6.13): Tables 6.2 lines 12, 13, 52; 3.4ESI lines 10, 11, 49, 55; 3.1 ESI lines 10, 11, 49, 55; SAGDP3S lines 10, 11, 49, 55; SAGDP7S lines 11, 12, 49

Shaikh-inspired incremental sectoral profit rates (Figures 6.14-6.16): Tables 3.8ESI lines ; 3.7ESI lines 10, 11, 12, 17, 20, 24, 30, 49, 55; SAGDP7S lines 11, 12, 19, 21, 25, 33, 49, 55; also, Tables 3.7ESI lines 10, 11, 49, 55; SAGDP7S lines 11, 12, 49, 55

The organic composition of capital (Figure 6.18): Tables 3.1 ESI lines 10, 11; 6.2 lines 12, 13

Sectoral fixed investment in structures (Figures 6.2 and 6.3): Tables 5.4.5 lines 14, 35; 5.4.3 lines 14, 35

Corporate profits before tax by industry (Figure 6.1): Table 6.17A, lines 1, 12, 13, 53

Baltimore metropolitan area income (Figure 6.17): Table CAINC30, Lines 90, 230

Construction investment data is taken from United States Census Bureau's Construction Spending accounts. https://www.census.gov/construction/c30/oldtc.html (accessed September 28, 2020)

Figure 6.19-6.22: Value of Construction Put in Place Statistics; Table 1 Annual Value of Construction Put in Place in the United States Current Dollars

Appendix 3.2. Data Sources Used for Chapter 7

Data is taken from Statistics Sweden (SCB) and OECD. Stats interactive tables, and The Conference Board Tables (CBT).

https://scb.se/en/finding-statistics/statistics-by-subject-area/national-accounts/

https://stats.oecd.org/# (accessed October 26, 27, 29, 2020)

https://www.conference-board.org/ilcprogram/productivityandulc (accessed November 5, 2020)

Stockholm's data is taken from the municipality's digitalized yearbook archives:

For 1904-2006: http://digitalastadsarkivet.stockholm.se/Databas/statistik-arsbok-1904-2006/Sok?sidindex=267 (accessed November 10, 2020)

For 2004-2020: https://start.stockholm/om-stockholms-stad/utredningar-statistik-och-fakta/statistik/statistisk-arsbok/ (accessed November 10, 2020)

Definitions:

Gross value added: GDP minus taxes on production and imports less subsidies

Gross operating surplus (gross profit): Gross value added minus compensation of employees

Net operating surplus (net profit): Gross operating surplus minus depreciation (of fixed assets)

National income: GDP minus depreciation (Consumption of fixed capital)

Gross investment: Investment in private fixed assets, i.e., gross fixed capital formation

Net Capital Stock: Net fixed assets

Shaikh's rate of profit: Net operating surplus divided by net stock of capital

Shaikh's incremental rate of profit: The change in gross profit divided by lagged nominal gross investment (the previous year)

Kliman's rate of profit: Property income (or net operating surplus) divided by net stock of fixed private capital (historical cost)

Roberts' rate of profit: National income less compensation of employees divided by (net stock of private nonresidential fixed assets divided by compensation of employees plus 1)

Tables:

SCB Tables:

National Accounts:

GDP: production approach (ESA2010), current prices, SEK million by industrial classification NACE Rev. 2 and year, lines C10-C33 Manufacturing, F41-F43 Construction, J61 Telecommunication, K64-K66 Financial Services and Insurance Activities, L68 Real Estate Activities

Bruttoinvesteringar (SNA68), löpande priser, mkr efter näringsgren SNI69 och kvartal [Gross Investment by Industry] lines, 2000 Extractive, 3000 Manufacturing, 5000 Construction, 7000 Communication, 8000 Finance

Value-added, detail components (ESA2010), current prices, SEK million by industrial classification NACE Rev. 2, transaction item and year (Net Operating Surplus, Consumption of Fixed Capital), lines C13-C15 (Manufacturing), F41-F43 (Construction), J61 (Telecommunications), K64-K66 (Financial Services and Insurance Activities)

Labor costs (ESA2010), current prices, SEK million by industrial classification NACE Rev. 2, observations and year, Compensation of Employees, lines C10-C33 Manufacturing, F41-F43 Construction, A01-T98 Market producers and producers for own final use total

Labour productivity by industrial classification (ESA2010) SNI 2007, seasonally adjusted. Quarter 1993K1 - 2020K2

Multifactor productivity (MFP). Yearly growth in percent units by industrial classification NACE Rev. 2, Yearly growth rates for the base variables and year, line A01-T98 Market producers and producers for own final use total

Fixed capital formation (ESA2010), current prices, SEK million by industrial classification NACE Rev. 2, type of asset and year, lines 1.1.1 Dwellings, 1.1.1.1 Dwellings, new constructions, 1.1.1.2 Dwellings, reconstructions, 1.1.2 Other buildings and structures

Wealth Accounts:

Balance sheets (ESA2010), end of year, net, current prices in SEK million by sector, type of asset and year (lines S1 Total Economy, S11 Non-Financial Corporations, S12 Financial Corporation)

Stocks of fixed assets, net, January 1st each year (ESA2010), current prices, SEK million by industrial classification NACE Rev. 2, type of asset and year lines, 0002 Total Economy, C10-C33 Manufacturing, F41-F43 Construction, J58-J63

Information and Communication, K64-K66 Financial Services and Insurance Activities, L68-N82 Real Estate, Renting, and Business Services

Figure 9.17: lines

Figure 9.19; 9.18: lines S1, S11, S12: AN11M, AN11K; AN21, AN211, AN2111, AN2112

For Fixed Assets (Net): S1, S11, S12; AN11

Sector Accounts:

Institutional non-financial sector accounts (ESA2010), current prices, SEK million by sector, transaction item and year (S1, S11, S12), Lines 0.P5g Gross Captial Formation, II.1.1.B2g Gross Operating Surplus, II.1.1B2n Net Operating Surplus, III. 1.2.P51c Consumption of Fixed Capital, III.1.2.P51g Gross Fixed Capital Formation, II.1.1.D1 Compensation of Employees

Housing, Construction, and Building Tables:

Figure 9. 20 (a, b, c, d):

Building permits for new construction, number by region, type of building and quarter, (Lines 010, 020, 030, 060)

Completed dwellings in newly constructed buildings by region, type of building and year

OECD Tables:

14A. Non-financial accounts by sectors

6A. Value Added and its components by activity, ISIC rev4, 2019 archive (constant and current prices):

Net Operating Surplus by industry: lines, VTOT Total Activity, VC Manufacturing, VF Construction, VJ Information and Communication, VK Financial and Insurance Activities, VL Real Estate Activities

Gross Operating Surplus by Industry: lines VTOT, VC, V10-12, V13-15, V16-18, V19, V22-23, V24-25, V26, V27, V28, 29-30, V31033, VF, VJ, VK, VL

Gross Fixed Capital Formation: lines VTOT, VC, V10-12, V13-15, V16-18, V19, V22-23, V24-25, V26, V27, V28, 29-30, V31033, VF, VJ, VK, VL

6A. Value Added and its components by activity, ISIC rev4 (constant and current prices)

9A. Fixed assets by activity and by asset, ISIC rev4 (constant and current prices)

The Conference Board Tables:

International Comparisons of Manufacturing Productivity and & Unit Labor Cost, Table 1: Manufacturing Sector Indexes

Stockholm Yearbook Tables:

Stockholm Building Activity: Yearbook 1995, Table 105 (1984-1993); Yearbook 2004, Table 7.15 (1993-2004); Yearbook 2012, Table 7.13 (1999-2010); Yearbook 2019, Table 7.12 (2004-2017)

Before 1984 the data for new construction and conversion is not distinguished.

Appendix 3.3. Data Sources Used for Chapter 8

The data is taken from online databases of the Central Bank of Iran (CBI) and Statistical Center of Iran (SCI)

Central Bank of Iran:

Economic Time Series Database: https://tsd.cbi.ir/ (accessed November 13, 2020)

National Accounts: https://www.cbi.ir/simplelist/5796.aspx; (accessed November 12, 2020)

Statistical Center of Iran:

Input-Output Tables: https://amar.org.ir/-دادهها-و-اطلاعات-آماری/حساب-های-ملی-و-ا منطقهای/جدول-داده-و-ستانده#٥٦٠٨٧٦١- (accessed November 13, 2020)

Definitions:

Gross value added: GDP minus taxes on production and imports less subsidies

Gross operating surplus (gross profit): Gross value added minus compensation of employees

Net operating surplus (net profit): Gross operating surplus minus depreciation (consumption of fixed capital)

Gross investment: Investment in private fixed assets, i.e., gross fixed capital formation

Shaikh's rate of profit: Net operating surplus divided by net capital stock at current costs

Shaikh's incremental rate of profit: The change in gross profit divided by lagged nominal gross investment (the previous year)

Tables:

Central Bank of Iran Tables:

From National Accounts Tables:

National Product - At Current Prices:

Table 1. Gross National Product (Income) by Activities – Billion Rials

Table 15. Value Added of Manufacture Industries at Basic Prices – Billion Rials

Table 21. Value Added of Construction at Basic Prices – Billion Rials

Table 39. Value Added of Real Estate & Professional Services at Basic Prices – Billion Rials

National Expenditure - At Constant 2004/05 Prices:

Table 13. Gross Fixed Capital Formation in Machinery and Construction – Billion Rials

Table 14. Gross Fixed Capital Formation by Private and Public Sectors – Billion Rials

Table 15. Gross Fixed Capital Formation in Machinery and Equipments by Activities – Billion Rials

National Expenditure - At current prices:

Table 15. Gross Fixed Capital Formation in Machinery and Equipments by Activities – Billion Rials

Table 17. Gross Fixed Capital Formation by Activities – Billion Rials

Table 18. Gross Fixed Capital Formation in Machinery by Activities from Domestic Production – Billion Rials

Table 20. Gross Fixed Capital Formation in Construction in Urban and Rural Area by Private Sector – Billion Rials

National Accounts Tables, by Sector, Current and Basic (2010=100) Prices (in Persian):

Table 1: Value Added by Economic Groups, Current Prices – Billion Rials

Table 17. Value Added and Operating Surplus, Whole Economy, at Current Prices – Billion Rials

Table 22. Value Added and Operating Surplus, Manufacturing, at Current Prices – Billion Rials

Table 24. Value Added and Operating Surplus, Construction, at Current Prices – Billion Rials

From Economic Time Series Database:

Net Capital Stock Tables:

Table 1 Net Capital Stock 1974-2014

Construction and Housing Sector Tables:

Private Sector Investment in New Buildings in Urban Areas / Investment by Urban Areas

Residential Units Completed by the Private Sector in Urban Areas

Construction Permits Issued by Municipalities in Urban Areas

Construction Permits Issued by Municipalities in Urban Areas

Statistical Center of Iran:

Input-Output Tables:

For net operating surplus, compensation of employees, consumption of fixed capital, gross fixed capital formation (by industry)

Table 1: [جدول داده ستانده اقتصاد ایران] Input-Output - Iranian Economy, 1986; 1991; 1999; 2004; 2011

[جدول مصرف اقتصاد ایران] Table 5. Consumption Table - Iranian Economy, 2001; [جدول مصرف اقتصاد ایران] Table 2. Consumption Table - Iranian Economy, 2010

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