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Layers of finance: Historic tax credits and the fiscal geographies of urban redevelopment

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ABSTRACT

Growing tax credit markets to preserve historic structures, deliver affordable housing, and encourage investment in distressed communities reveal intensification in the financialization of real estate. This paper develops a case study of federal historic tax credits to argue that there are multiple and interrelated processes of financialization at work within a single building, including tax sheltering. Drawing on commodification and marketization literatures in critical human geography, this paper illustrates how the fracturing of property rights by the tax code refashions buildings into 'bundled' financial assets. It uses qualitative and quantitative data collected in 2016–2017 to (i) demonstrate the production of new inventories of historic buildings through the revaluation of old structures, (ii) examine overlapping geographies of tax and finance produced by the strategic alignment of state and federal tax law, and (iii) discuss the creation of secondary credit markets by financial investors through the unbundling of the capital stack. Although historic tax credits—and tax credits in general—are now an integral part of real estate financing, the market for tax credits provides valuable theoretical insights into the variations of urban financialization that co-exist in the same physical space.

1. Introduction

> "I'd like to draw your attention to a major innovation our administration put into effect less than 3 years ago: increased tax credits for the renovation of older buildings. With that one initiative we helped to send your tax dollars back into your communities. Across America people are getting the message. Our tax credits are making the preservation of our older buildings not only a matter of respect for beauty and history, but of economic good sense."
> -**United States President Ronald Reagan on September 14, 1984**

American cities are undergoing rapid processes of gentrification and financialization of their urban cores (Stein, 2019). This paper argues that these transformations are driven in large part by one of the most attractive benefits offered to real estate investors by the US tax code: investment tax credits. One in a suite of federal investment credits including the low-income housing and new markets tax credits, the historic tax credit appeared after the national recession and urban fiscal crises of the late 1970s and expanded in and around the 2008 global financial collapse. The federal historic tax credit is supposed to provide property developers with a valuable source of project financing in the 'hard to rehab' places like empty office and industrial buildings (Ryberg-Webster, 2015a; Kinahan, 2019). Yet, regulations prevent the vast majority of developers from claiming the credit for themselves. Instead, property developers opt to 'sell' the credit for project equity to financial investors looking to wipe out their tax bills. The most recent wave of investment in historic tax credits suggests they are no longer 'a matter of respect for beauty and history,' but are instead emblematic of a new 'economic good sense' that lies beneath the financialization of real estate.

Broadly, the financialization of real estate refers to how "financial actors, markets, practices, measurements, and narratives are increasingly becoming dominant" (Aalbers, 2017: 545), as financial markets stake ownership claims to various aspects of the city (Sanfelici and Halbert, 2019). Despite different institutional contexts, submarkets, and investment tactics, the literature reveals the ways in which buildings are rendered a legible financial asset for investors, no different than stocks and bonds (Haila, 1991; Harvey, 1982). Scholars' focus on how buildings are valued as- and become- singular financial assets based on their anticipated future income streams (Coakley, 1994; Fields, 2017; Guironnet et al, 2015). However, the increasing demand to offshore wealth and avoid tax in urban property markets (Fernandez et al, 2016; McKenzie and Atkinson, 2019; Rogers and Koh, 2017), as well as expanding domestic tax credit markets, suggests not all financial investments in real estate are calculated on income generation. Reducing financialization to a "singular, unchanging logic" (Rutland, 2010: 1172) based on cash flows eclipses significant features of the contemporary

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urban process.

This paper offers a different perspective on financialization. Using work within critical human geography that emphasizes the specific ways in which commodification and marketization—the so-called "conditions of financialization" (Chen, 2019: 5)—occurs in real estate, this paper develops an understanding of a building as a bundled asset, capable of unraveling multiple financial opportunities for an array of investors. By focusing on the creation of value in historic buildings, the financing structure of tax credit projects, and the markets where historic tax credits circulate, this paper teases out how credits become a different type of financial asset and where they strategically intersect and unbundle across different state scales. Doing so draws attention to the much-overlooked role of tax in urban processes (Tapp and Kay, 2019) while also forging new empirical terrain into the financial workings of the historic tax credit and its markets (Ryberg-Webster and Kinahan, 2017).

This paper explains the last two decades of growth in historic tax credits by combining semi-structured interviews collected from developers, investors, regulators, and consultants involved with historic tax credit projects before and after the 2008 financial crisis, with quantitative data collected from the National Park Service. In what follows, this paper first provides background information on the historic tax credit program while situating it in a brief history of US tax regimes. In order to theorize the divisibility of property rights and geographies of tax credit markets, this paper then brings geographic work on 'neoliberal natures' and marketization into conversation with the financialization of real estate literatures. After a discussion of data and methods, the paper turns to an empirical case study of the historic tax credit. This first empirical section examines the process by which historic preservation transforms a stock of obsolete buildings into the frontiers of finance. It then shifts to address how developers layer state and federal historic tax credits in a bundled capital stack, driving the growth of 'non-tax spaces' across cities (Wainwright, 2013). Next, this paper considers how the legal disjuncture between federal and state historic tax credit programs facilitates parallel credit markets while calling into question the politics of tax sheltering. The paper concludes by arguing that in developing a more explicit understanding of commodification and marketization as part of the urban process, another dimension of financialization emerges: not only the is building itself a financial object (Harvey, 1982) but so is the ground below it (McNeill, 2019), the sky above it (Chen, 2019), and even the spaces inside it.

2. Historic Tax Credits

Tax credits are a direct offset of tax liabilities. Considered to be more attractive than tax deductions, credits reduce a taxpayer's tax liability on a dollar-to-dollar basis (Bronin and Rowberry, 2018: 441). Historic tax credits provide property owners—typically the real estate developer—with an income tax credit that covers redevelopment costs for a building listed on the National Register of Historic Places[1]. Regulations limit the use of the historic tax credit to income-producing properties, which means historic tax credits cannot be used on a private residence. Property owners must also (i) demonstrate the cost of the rehabilitation is greater than the pre-rehabilitation cost of the building, and (ii) retain ownership of the building for at least five years after completing the redevelopment (TPS, 2012). As a result, the majority of historic tax credit projects cover the conversion of former industrial and office spaces into rental residential and mixed-use commercial properties.

Cities have no regulatory oversight of the historic tax credit. Rather, historic tax credits are overseen by a governing constellation of three federal and state agencies: the National Park Service, the respective state's State Historic Preservation Office, and the Internal Revenue Service (TPS, 2012). Together, these agencies evaluate the three-step application for the credit that involves: (i) certifying the building as historic, (ii) certifying the proposed rehabilitation plans and costs adhere to federal rehabilitation standards, and (iii) certifying the completed project.

'Historic' is a formal federal designation attributed to architecturally, socially, or culturally significant structures at least 50-years old. Buildings receiving a federal historic tax credit must be listed as historic either as an individual structure or as a contributing building to a federal historic district. Once listed, historic is a functionally permanent designation. Redevelopment of these buildings involves resolving an uneasy tension between economic and social ideas about value through preservation and rehabilitation. Historically preserved buildings are a determination of social value or significance, meaning they do not easily fit with any existing market-based understandings of value (Rypkema, 1991). Preservation therefore must transpose use value with exchange value in order for historic buildings to be a viable financial option for investors.

The total amount of tax credits awarded to a project is calculated as 20% of the qualified rehabilitation expenses. Outlined in Section 47(c)(2) of the Internal Revenue Code, qualified rehabilitation expenses are the physical improvements to a structure. They cover a wide range of hard costs like walls, floors, and plumbing to soft costs like developer fees, building permits, and architecture and preservation consulting fees. Notably they not include new construction, property acquisition costs, or demolition expenses. As one developer explained, "imagine taking a building and turning it upside down and shaking it. Everything inside that did not fall out would be a qualified rehabilitation expense" (Interview #32, 1 March 2017). Qualified rehabilitation expenses monetize some of a building's property rights, directing investors to particular projects based on the anticipated size of the credit.

The price investors are willing to pay for tax credits is determined by a combination of investor demand, local supply, and "risk factors associated with commercial real estate development like cash flows, property management, and developer strength" (OCC, 2015: 18). Throughout the industry, prices for historic tax credits are expressed as 'price per [credit] dollar'. Current estimates put historic tax credits in a range of $0.77 to low $0.90s (Leith-Tetrault, 2018), although in some markets, historic tax credits sell for over $1.00 (NTHP, 2010). As a hypothetical example, $5,000,000 qualified rehabilitation expenses generates a $1,000,000 federal historic tax credit, with investors paying upwards of $770,000 to claim the credit. Low pricing means tax credits are sold at deep discount to investors who use them as tax shelters. While difficult to define with a single formulation, the US Department of Treasury (1999: i) echoes the American Bar Association's findings that tax shelters are activities and "'products' that have little or no purpose other than the reduction of federal incomes taxes." Actors in the historic tax credit industry agree: historic tax credits are tax shelters (Historic Tax Credit Coalition, 2010). Even though they "raise the tax burden on other taxpayers" (US Department of Treasury, 1999: iv), tax shelters can be cheap for investors.

3. Legislating tax shelters

Since the program was created in 1978,[2] historic tax credits have leveraged $145 billion of private capital into the rehabilitation of over 43,000 buildings in the United States (TPS, 2018), making it "the largest community reinvestment program in the country" (NTHP, 2014: 3)

[1] The National Register of Historic Places is the official repository for all historic structures in the United States. It is housed within the National Park Service, an agency nested within the US Department of the Interior.

[2] Amended by Ronald Reagan in 1981 and 1986, and by Donald Trump in 2017. The 2017 Tax Cut and Jobs Act (TCJA) eliminated the 10% credit, and stipulated the 20% credit must now be claimed in 4% increments over 5 years; the effects of this change are still a matter of debate in the industry.

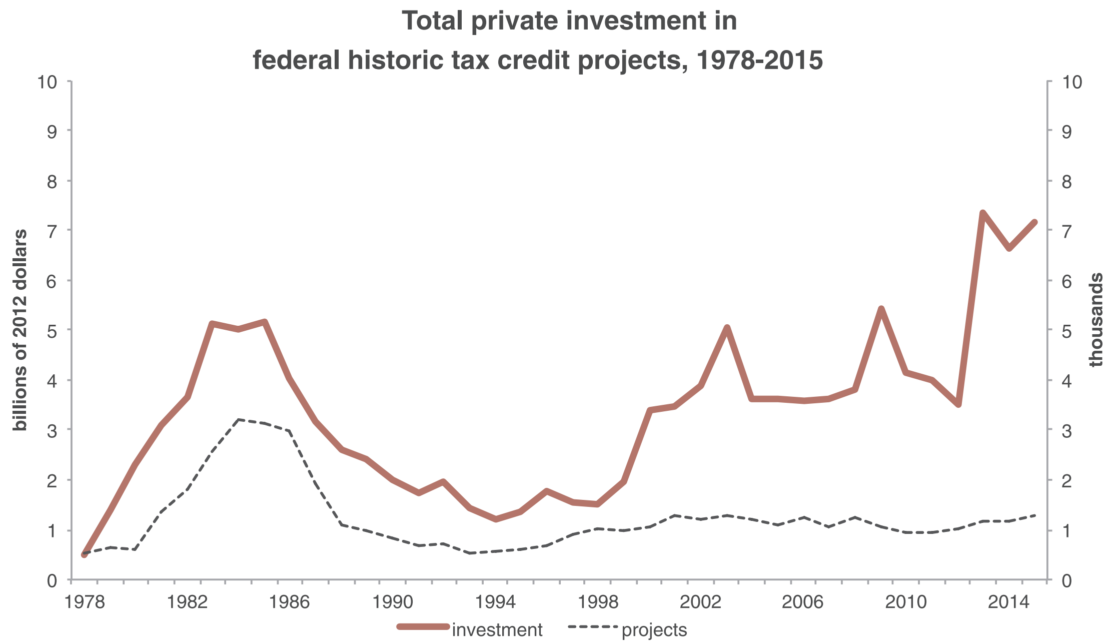

Fig. 1. Total private investment (qualified rehabilitation expenses) in federal historic tax credit projects, adjusted to 2012 dollars. Data 1978–2012 from Listokin *et al.,* 2012 and data 2013–2015 from the Technical Preservation Services, adjusted to 2012 dollars following Listokin *et al.,* 2012: 25 (formula on Exhibit 1, footnote B). Chart by author, August 2018.

. Investment in historic tax credits grew steadily throughout the early 2000s, but soared to their highest levels ever in recent years. Nearly 40% of the total amount invested in the federal historic tax credit program came in the decade after the 2008 global financial crisis (see Fig. 1). Understanding the increased demand for historic tax credits over the last two decades requires tracing the transformation of the credit from its neoliberal origins to its financialized present following an arc that spans different federal tax regimes.

Federal tax legislation began to make a market for outdated buildings in the late 1970s. Prior to the passage of the Tax Reform Act of 1976 (TRA76), tax law penalized historic preservation and rewarded new construction by subsidizing demolition and encouraging accelerated depreciation (Weber, 1979). Property owners continue to use depreciation deductions—an annual measurement of devaluation due to normal 'wear and tear'—to offset taxes and increase the profitability of new buildings, while shortening how long the building is considered to be economically functional (Abramson, 2016). Deductions in the tax code like depreciation "serve the need of capital to liquidate architecture" so that the end of a building's "economic life" often triggers demolition and justifies new construction (Cairns and Jacobs, 2014: 114). PL 94-455 Section 2124 of TRA76, entitled the "Tax Treatment of Certified Historic Structures" accelerated depreciation for historic buildings and shifted tax liabilities to the future, nudging the economics of historic rehabilitation closer to new construction (Weber, 1979). Two years later, President Carter's Revenue Act of 1978 introduced a 10% investment credit, quickly converting commercial buildings previously at risk for demolition into new investment opportunities.

The first significant expansion of the historic tax credit came in the early 1980s as Ronald Reagan's market-based policies took a firm hold in tax legislation. The Economic Recovery Tax Act of 1981 (ERTA)—regarded as "the most important instance of American neoliberalism" (Prasad, 2012: 352)—made the historic tax credit a three-tier incentive for historic (25%), and non-historic buildings aged 40 years (20%) and 30 years (15%) respectively. ERTA unleashed a wave of household savings into the commercial real estate market (Beitel, 2000; Duca et al., 2017), including investments in historic tax credits that peaked at nearly $5.1 billion in 1985. Wealthy individuals captured the majority (69%) of the credits to use as tax shelters for personal income (GAO, 1986:12).

Reagan's second comprehensive tax reform—the 1986 Federal Tax Reform Act (TRA86)—halted investment in the program (Listokin et al., 2013). PL99-514 Internal Revenue Code Section 47 reduced the historic tax credit amount for historically designated properties from 25% to 20%, while combining all non-historic buildings constructed before 1936 into one 10% credit. Where once historic tax credits were "the center of an economic engine to revive inner cities that had virtually replaced dwindling Federal aid" (Waite, 1988), throughout the 1990s it remained underused as commercial real estate markets slowed to a stop (Ball, 1994).

Changes associated with TRA86 not only altered the regulation of the tax credit industry but also ushered in new financial logics that would eventually frame the credit for financialization. The most significant of these has been the "passive income" rule that restricts the types of income the historic tax credit could offset (US Department of Treasury, 2002). While this rule eliminated the market for individual investors who expanded the program under Reagan, it encouraged earners of passive income[3] an unlimited opportunity to offset their tax burden with historic tax credits. With the rise of financialization during the 2000s, more non-traditional property owners like financial corporations and insurance companies moved into real estate markets to produce profits from income-generating properties (Clark, 2000). Reregulation of the historic tax credit offered these investors avenues to convert their real estate earnings into tax-free investments (Listokin et al., 2013). TRA86 shifted the market for tax credits away from individuals to corporate and financial investors, creating a robust secondary tax credit market based on taking profits made in one real estate market and sheltering them elsewhere. The use of historic tax credits

[3] An Internal Revenue Service categorization of earnings derived from any rental properties and equipment, and businesses where the taxpayer does not materially participate in regular, continuous, and substantial manner (for example a limited liability company). Note that interest and dividends, stocks and bonds, trusts, and royalties are *not* considered passive income. See Internal Revenue Code Section 469 for more information. The most easily identifiable sources of 'passive income' are income-generating properties like rental housing and commercial spaces.

illustrates how the financialization of real estate involves both income-generation and tax sheltering.

4. Individuating, commodifying, and marketizing building rights

The seismic shift towards the financialization of real estate is characterized by the fact that multiple investors and partners can share ownership in properties, much like owning stocks and bonds (Charney, 2001). Evidence detailing the rise of institutional investors—pension funds, insurance companies, investment banks—as well as the 'democratization' of real estate investment by real estate investment trusts (REITs), and the growth of private equity, seem to support this claim (Van Loon and Aalbers, 2017; Wijburg, 2019). In particular, investors place a premium on amassing a portfolio of highly-leveraged (indebted) and income-generating properties because these cash flows and mortgage annuities can be securitized and traded (Fields, 2018). While the 2008 global financial crisis and its aftermath revealed the dangers and the depth with which these strategies dominate real estate markets (Wissoker et al., 2014), such an approach treats buildings as "indivisible" objects that "cannot be traded in small units" (Coakley, 1994: 700).

Understanding buildings as a financial asset that generates multiple markets requires focusing on the ways in which property can be legally divided. Here, the literatures on the financialization of the physical environment—neoliberal natures—can be used to explain the financialization of the built environment. Under the same national legal and taxation regimes, a single parcel of land and a single building subject to the same regulations and capitalist demands generate similar accumulation patterns (Tapp and Kay, 2019). Neoliberal natures—with its emphasis on value and property rights—is an especially instructive tool for conceptualizing a building as a bundled financial asset because it considers the legal and economic mechanisms that produce commodities. Moreover as David Harvey implores (1978: 114), to regard the rural-urban dichotomy "as a fundamental conceptual tool for analysis is in fact to dwell upon a lost distinction which was in any case but a surface manifestation of the division of labor." By developing a more explicit understanding of the divisibility of building rights and the multiple markets that make urban development possible, it becomes clear that variations of urban financialization co-exist in the same physical space. The following builds this theoretical framework through three features of the commodification literatures: the transformation of use values into exchange values, the bundling and unbundling of property rights, and the decoupling of individuated values from a single building. It places this understanding of 'fractional ownership' in the built environment in conversation with marketization literatures to root tax credits in moments of fiscal crises, sketch the urban geographies of tax, and dissect real estate financing.

4.1. Commodification, 'bundle of rights', and decoupling individuated values in the built environment

Commodification reframes use values as exchange values (Castree, 2003) and is "elemental" to the ways in which property is "claimed and owned" (Chen, 2019: 5). The perpetual challenge for locating exchange value in the outdated and depreciated built environment is that the US tax code has long favored new construction above rehabilitation (Weber, 2015). Buildings age the moment they are constructed, and over time they become economically and functionally outdated, illiquid, and immobile. Eroding use values leaves buildings at odds with current forms of profit-making. As the financialization of real estate is increasingly characterized by the "unfettered conversion of use-values into tradable exchange-values" (Ward and Swyngedouw, 2018: 1079), new valuation techniques within the appraisal industry are paramount to creating liquidity in obsolete landscapes. Classifications like historic preservation makes redevelopment economically viable: non-market design and social features of a building morph into tradable values (Mason, 2005).

Second, commodification breaks a single property into what Kelly Kay (2016) has called a 'bundle of rights.' Property rights, which legally define the economically tradable aspects of an asset, also fracture a whole building into its constitutive pieces. This renders individual attributes of the asset commensurable to a range of like and non-like objects. The fact that financial investors are able to partially own and circulate individual property rights indicates that financialization "is not a 'natural' phenomenon but is actively facilitated by public bodies of the state" (Wijburg, 2019: 1). Here the roles of "new legal-regulatory regimes and taxation schemes" (Kay, 2018: 167) act as the key institutions by which the state emits financial assets. Law and tax define the "rules of exchange, governance structures, property rights, and conceptions of control that regularize patterns of real estate activity and interaction, and that facilitate their reproduction across time and space (Gotham, 2006: 240). In the case of historic tax credits, tax law refigures a property owner's 'right to improvement' into an individual financial commodity, making it one 'stick' in a bundle of marketable rights (Robertson, 2011). Other recent examples of marketable property rights in urban development include air rights (Chen, 2019) and subterranean land rights (McNeill, 2019).

Third, commodification allows real estate investments to be "decoupled" from the underlying property (March 2012: 4). Decoupling is key to financialization as it inscribes value into individual physical features and future uses in a structure, before severing those values from the building. Once separate from the physical building, these 'individuated' values are free to circulate on financial markets. To conceptualize how this takes shape in a building, a three-dimensional or volumetric approach is particularly helpful. Hung-Ying Chen (2019: 2) examines Taipei's urban air rights markets, noting how "urban air rights typically detach the right to build upwards from the underlying and designated surface use of the terra firma." The fact that these property rights can circulate independently or be bundled together suggests that urban financialization "works beyond the site of redevelopment" through "the combination of multiple marketization processes at once" (2019: 9, 5). In the case of tax credits, federal tax law excavates the material costs of redevelopment from the building itself, abstracting qualified rehabilitation expenses into mobile assets for investors. These rehabilitation costs are purchased on markets by investors with little to no other financial interest in the economic performance of the building overall; investors are guaranteed their credit as long as the material aspects of redevelopment are standardized and certified.

4.2. Marketization and fiscal crises, tax credit markets, and capital stacks

The emergence of historic tax credits in the late 1970s out of a national recession, energy crisis, and urban bankruptcies (Ryberg-Webster, 2015b), serves as an important illustration of how the state produces new markets to resolve its fiscal crisis (Peck and Tickell, 2002). It should be no surprise that marketization—processes by which "markets and market forces transform state enterprises, agencies and services" (Birch and Siemiatycki, 2016: 128)—which have long-characterized neoliberal governance, were renewed with vigor in the last decade as the 2008 global financial collapse morphed into a fiscal crisis for the state. Recent examples of new urban markets emerging from the "fiscal restructuring of the state" (Peck and Whiteside, 2016: 28) span from infrastructure (Hall and Jonas, 2014; O'Neill, 2013) to housing (Beswick and Penny, 2018; Fields, 2017). While the state's level of involvement varies across these examples, in each instance, financial markets replace government funding, entangling the provisioning of social goods and public services with circuits of capital.

Buying and selling of tax credits occurs on primary and secondary markets, allowing financial investors to extract value from the interior spaces of urban properties. In the United States, historic tax credits are awarded to the owner of the rehabilitated property. However, in most cases property owners do not posses enough passive income to use the credits themselves; instead they are able to exchange credits to third-party investors who acquires an ownership interest in the property (OCC, 2015). Consequently, financial investors already active in real estate markets are encouraged to expand into tax credit markets as rehabilitation costs are 'purchased' to offset their passive income earnings. This is similar to the 1980s, when national tax advantages fueled a boom in commercial real estate, and swaths of undeveloped land and underutilized buildings in cities across the global North—such as Houston, New York, and London—supplied investors' demands for tax shelters (Fainstein, 2001; Feagin, 1987).

Developers capitalize on investors' appetite for tax credits, transforming how real estate projects are financed. 'Layering' or 'twining' multiple credit commodities provides fast cash to developers. This practice is made visible in what is known in real estate finance as the 'capital stack.' Capital stacks offer a portrait of the multiple financial markets working inside a building; they consist of all the sources of debt and equity that are layered together to fund the purchase and development of a project. They structure who—and in what order—has legal rights to income, returns, and the physical property across a real estate transaction involving many investors. Filling the capital stack and financing a project is dependent on the strategic regulatory alignment that assembles decoupled commodities together in a single building and the markets that monetize and transform rehabilitation costs into investment opportunities. These stacks are legally held together by federal and state tax law that govern credits and economically by the financial calculations developers use to 'pencil a project out.' Examining the layers, or sources of financing, within a capital stack illuminates not only the financial circuits that make urban development possible, but also who owns what property rights.

This paper argues that historic tax credits are an important example of the ways in which buildings can be fractured, commodified, and marketized. When financial calculations are applied *throughout* the structure, multiple income streams and profit-making opportunities emerge from this bundled financial asset. The remainder of this paper examines how actors exploit and profit from the divisibility of property rights within a single building. The following sections demonstrate that the dominant strategy activated by tax credits is tax sheltering, an outcome of the revaluation of historic buildings, decoupling of property rights from their material context, and circulation of these abstracted values on secondary markets.

5. Methods

In order to analyze the growth of federal historic tax credits, this paper utilizes qualitative and quantitative data collected as part of a larger research project examining the historic tax credit industry in the United States before and after the 2008 global financial crisis. Qualitative data presented here draws from actors directly involved in federal and state historic tax credit projects. Thirty-two semi-structured interviews of 1–2hours were conducted in-person with property developers (n = 10), real estate agents (n = 2), preservation consultants (n = 8), and local, state, and federal regulators (n = 12) in 2016–2017. Interviews focused on how developers and investors selected buildings to develop; the mechanics of financing tax credits; investor-developer relations; and the market demands for tax shelters. All interviews were audio recorded with permission. To protect the confidentiality of the subjects, interviewees are referenced by the date of the interview and a randomly assigned number.

Interview data was supplemented with a dataset obtained on request from the Technical Preservation Services department of the National Park Service. It included all buildings in the United States that received the federal historic tax credit from 2001 to 2015 (n = 10,543). The data presented in this article analyzed the location and density of historic tax credit investment and identified the overlap between federal historic tax credits and other state historic tax credit programs. Preliminary findings from this analysis informed semi-structured interviews, particularly around the impact of state historic tax credit programs on real estate financing. Secondary reports from government agencies and the tax credit industry provide additional descriptive statistics and characteristics about tax credit markets.

Empirical research presented below addresses the need to understand how layering state and federal historic tax credits influence the urban-financial geographies of credit markets (Ryberg-Webster and Kinahan, 2017), while providing "rich detail and investigative specificity" needed to understand financialization (Gotham, 2016: 1367). Findings from this study reveal historic tax credits to be one example of how the ongoing restructuring and reregulation of the state facilitates the market-driven transformation of the built environment. Three empirical sections are presented next; they address value and historic preservation, the spatial alignment of tax and finance, and the secondary markets for historic tax credits.

6. Creating value while preserving historic buildings in bulk

Critics of historic preservation sometimes view it as an impediment to urban development and an infringement of individual property rights, although the expansion of preservation-based development in numerous cities suggests otherwise (Reichl, 1997; also see Newman, 2001). Preservation scrubs underperforming buildings of their market 'inefficiencies' and acts as the initial statutory gateway to accessing federal and state historic tax credits. In essence, preservation means the federal government "*pay[s]* owners to let their structures survive" (Logan and Molotch, 1987: 175, italics in the original). The National Trust for Historic Preservation (2014: 4) reports that in the lead up to the 2008 global financial crisis, "when construction in the U.S. began to decline, historic preservation continued climbing," a factor that made the tax credit industry resilient to the recession.

Appraising property rights in a potentially historic building requires a reconciliation of the two commercial valuation techniques used to determine the income-generating aspects of a structure—the sales comparison approach and the income approach—along with an assessment of how likely the building is to be deemed historic. Property developers report hiring preservation consultants to conduct site visits, assess historic features, and estimate costs of redevelopment before they purchase a building. A preservation consultant explained that while the purpose of a site visit helps "make sure the client [developer] understands the original intent" of a building's design, they ultimately "work for the client to help them get their tax credit" (Interview #9, 1 March 2017). By elevating the age and design of a structure as "a value in itself," historic buildings are transformed into a "source of exchange values" (Reichl, 1997: 517), the exact type of financial asset required by financialization.

Some enterprising cities expedite historic redevelopment by conducting architectural surveys to capture preservation's shifting geography. Surveys identify a city's historic resources, and are seen to create socially beneficial outcomes like affordable housing and revitalization in cost-effective and efficient ways, particularly because many state and philanthropic grants cover the costs of the survey (Interview #31, 2 March 2017). For example, cities all over the country including New Haven, Connecticut; St. Louis, Missouri; and Los Angeles, California—to name but a few—pay private preservation consultants with funds from State Historic Preservation Offices, Departments of Transportation, and Community Investment Acts among others, to identify historic buildings. At present, the majority of the built environment across the United States is eligible for preservation as the 50-year minimum threshold for buildings to be designated historic now includes structures constructed before 1970 (NTHP, 2016). Surveys promote historic assets at no cost to the city and place financialized logics onto a stock of newly-old buildings. Utilizing state and federal funds for architectural surveys reflects the compromised financial positions of many cities postcrisis, where "grant hustling and investment-chasing entrepreneurialism" became "less of a willed political strategy, more of a fiscal necessity" (Peck, 2012: 649).

Meant to serve as a taxonomy of historic assets and influence planning decisions, in reality surveys like the ones described above function as real estate listing flyers for potential buyers and sellers of historic buildings. In cities with significant historic redevelopment industries, properties listed on the National Register of Historic Places sell for higher prices because of the perception that a building automatically generates tax-based incentives. Describing how historic tax credits impact real estate prices, a commercial real estate agent who brokers historic property deals said:

> Obviously a building that is eligible for historic tax credits is going to appeal to a broader pool of buyers. That makes it more valuable. I don't know how to quantify how much value it might add but it's definitely a value enhancer. We'll put it on our marketing materials if it is on the National Register, or we think that it has the potential for it (Interview #21, 24 February 2017).

Tax credits appear to inflate the acquisition costs of property. Beitel (2000: 2128) calls this the "shadow yield" offered by tax shelters, noting that these benefits are "capitalized into the demand price that investors are willing to pay to acquire ownership rights, fueling a price appreciation of commercial real estate assets that exceeds any gains in rental yields." Developers with this mindset pick the easiest, least expensive, and quickest buildings to rehabilitate. This puts pressure on federal and state regulators who award historic designation. One regulator colloquially described these demands as a process where "the tail wags the dog" (Interview #1, 1 February 2017). Inadvertently and sometimes with hesitation, federal and state regulators acquiesce to pressure from developers pushing preservation agendas that revalue old property.

As more investors recognize the financial gains of historic tax credits in and above rehabilitation expenses, developers move to preserve buildings in bulk with federal historic districts. For example, a state regulator recalled that in the five years after the 2008 crisis, "we used to get mega-districts that would have hundreds of properties and nominations. They would come in cold on the day of the deadline" (Interview #31, 2 March 2017). Buildings that on their own would not be considered historically significant are designated because they fall within the parameters of a district, opening up entire neighborhoods to the inflow of capital.

In the lead up to and aftermath of the 2008 global financial crisis, developers and investors exploit architectural surveys, capturing increased property values and expanding the supply of historic buildings. While outsourcing of urban control has been particularly instrumental to the continued development efforts in a number of cities, the deference to private interests and prevailing state and federal regulations puts cities in a vulnerable position, especially during periods of tax law reform. As was almost the case in December 2017[4], financialized redevelopment strategies such as tax credits could vanish overnight, toppling the fragile financial mechanisms on which cities depend.

7. The geographies of tax shelters

Historic tax credits have a distinctly urban geography, as illustrated in Fig. 2. Investment in federal historic tax credits between 2001 and 2015 coalesces in major cities in states with concurrent state historic tax credit programs. As the map shows, the vast majority (83%) of the federal historic tax credits projects are located in states with a state historic tax credit program[5], and more precisely, cities in states with state historic tax credits. By 2013, the Technical Preservation Services reported that the "success" of federal program is "reflected in that over half of the states now offer state historic tax credits that can be piggybacked with the Federal credit" (TPS, 2013: 6). Understanding the geographies of historic tax credits requires examining the alignment of state and federal tax law and identifying how property developers use these combined programs in project financing.

State historic tax credit programs started slowly—by the end of the 1980s only New Mexico, Wisconsin, and Colorado had state credits—but the programs rapidly increased in the early 2000s when a second wave of state tax credit legislation spread to places like Missouri, Michigan, North Carolina, and Virginia. At present, approximately 38 states offer their own version of the historic tax credit but this number fluctuates as states like Tennessee work to establish a statewide credit, and other states, like Michigan, have recently suspended their program. While the specific regulations of state historic tax credits varies, most are established to mirror the federal program through the adoption of 36 CFR Part 67, known across the industry as the "Standards." Functionally similar to the federal credit, state historic tax credit programs offer property developers an additional 20–30% credit on qualified rehabilitation expenses in the same project. Combining federal and state historic tax credits proves to be a strong financial incentive for property developers to target expanding inventories of historic buildings, backed by a market of financial investors to seeking to erase their tax burden.

'Twinning' federal and state historic tax credits allows developers to overcome obstacles to expensive and risky redevelopment projects. A developer twining state and federal historic tax credits to convert an office into mixed-use space explained:

> In what you might consider secondary markets, when you can twin state and federal credits together, you can overcome the income hurdles that might prohibit these projects from happening. You've immediately got a net cut of 40% in your budget costs. Things that would never make sense suddenly make sense." (Interview #13, 23 February 2017).

A number of states facilitate the twining of credits by combining state and federal tax credit applications. For example, Ohio's state tax credit program allows property owners to submit a single application for the 20% federal credit and 25% state historic tax credit, as long as the state rehabilitation adheres to the "Standards." Programs like these standardize historic redevelopment processes, enabling the widespread use of credits in major cities. The combined application is often presented to state politicians as an efficient use of taxpayer dollars that maintains high standards for rehabilitation (2020 Tax Policy Study Commission, 2016). However, in practice, the combined credit process allows developers to quickly finance the same rehabilitation expenses twice.

Overlapping geographies of tax credits raises significant issues around the politics of taxation and urbanization. Project budgets for four case studies in Technical Preservation Services's (2018: 10–17) *Annual Report on the Economic Impact of the Federal Historic Tax Credit FY 2017* provides valuable insights into how frequently and widely credits are twinned. Capital stacks for all four historic redevelopment projects layer federal historic tax credits with multiple other incentives including state historic, low-income and new markets tax credits, and local subsidies. The strategic bundling of property rights associated with the different credits pulls equity into the capital stack and makes a building appear as a single asset to debt lenders (NTHP, 2014). Even though hypothetically "all permutations" of credits, debt, and equity "are possible" in a capital stack (Robertson, 2011: 10), in every example given, the combined sum of the tax credits (equity) is more than the loan (debt) on the project. This suggests not only that an expansive market for tax credits exists, but also that urban redevelopment is largely a tax-free endeavor.

It is crucial to bear in mind that the magnitude of layering credits in

[4] https://savingplaces.org/stories/presidents-note-save-the-historic-tax-credit

[5] This number includes Michigan, which closed its state historic tax program in 2011.

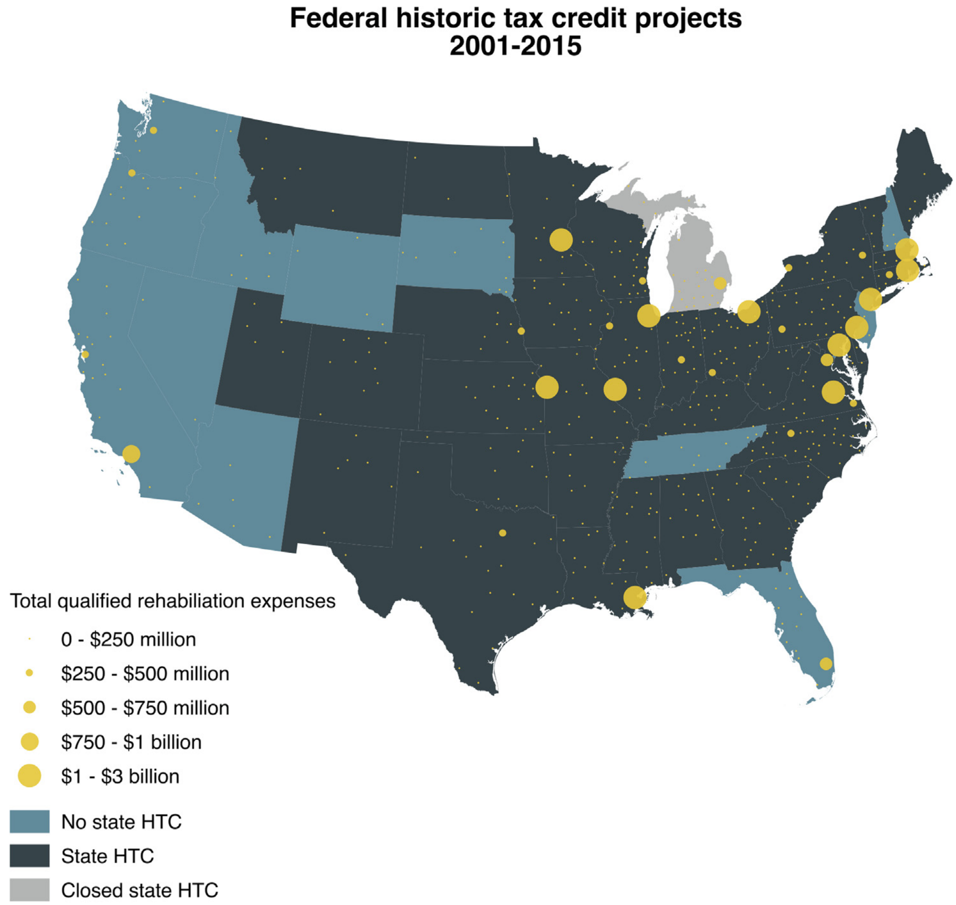

Fig. 2. Final federal qualified rehabilitation expenses. Data from Technical Preservation Services, chart by author August 2018.

a capital stack is much larger than the four illustrative cases. Respondents in a 2010 survey of 653 federal tax credit transactions found that 100% also used federal low-income housing tax credits, 80% used federal new markets tax credits, and 30% used federal renewable energy tax credits (NTHP, 2010:17). This is particularly staggering considering that the average single federal historic tax credit awarded is over $1.3 million (TPS, 2019). With similarly sized allotments of state historic credits, urban redevelopment therefore relies on billions of dollars in uncollected taxes.

Capital stacks for historic redevelopment projects are largely filled with tax-reducing subsidies. Layering and twinning credits in a single project quickly fills these stacks. It produces a building that can more productively be understood as what Wainwright (2013) terms '(non)tax spaces,' the physical site where no tax is collected. As the use of historic tax credits increase, the proliferation of non-tax spaces—tax shelters—constitutes one of the "undesirable consequences" of historic preservation, which "are not so much unfortunate by-products as written into the original rationale" (Smith, 1998: 483).

8. Breaking apart the capital stack and secondary credit markets

Historic tax credits are awarded to projects regardless of what income the property actually generates. This raises important political questions as to who actually shoulders the state's tax burden while at the same time makes it possible for property owners and investors to make money from the credit itself. As a result, secondary markets for tax credits have opened up in numerous places, shaped exclusively by an investor's tax bill, or tax footprint, that tethers them to a particular location. This is especially true of businesses operating in the United States who owe income taxes to the city and state, as well as the federal government. Although some corporations move their headquarters or particular aspects of their business offshore to dodge paying taxes (Aalbers, 2018; Roberts, 1995), many corporate investors and financial institutions that are 'locked in place' find clever ways to reduce domestic taxation, including through tax credits. One banker working for a financial institution overseeing $20 billion of investments tied up in tax credit projects explained,

> Look, you're a taxpayer. You're paying state income tax and you're paying federal income tax. The bank does that as well. Where the bank's footprint is in various states, it also has state tax liability. Where there are state [tax credit] programs, you're also going to see a healthy amount of investment and deals getting done in various markets within that state's political jurisdiction. Those states that have a robust historic program–and when I say robust, I mean they at least mirror the federal tax credit program–you are going to see a lot more economic activity and a lot more real estate risk takers (Interview #34, 2 November 2016).

Investors in federal tax credits vary by project, however the majority are Fortune 500 corporations and institutional investors with large tax liabilities[6]. State investors are highly localized and are typically composed of regional banks and large local corporations.

Bifurcation, a statute included in many state historic tax credit programs, marks the moment when a capital stack is unbundled and credits circulate as commodities on secondary markets. The statute allows investors to selectively decide to invest in state *or* federal credits and gives rise to separate federal and state credit markets. While federal historic tax credits cannot be sold beyond the initial investor, by 2018,

[6] http://cityscapecapital.com/historic-tax-credit-syndication

twenty states allowed the direct sale of state credits to third parties meaning state historic tax credits are transferred and sold multiple times over (NTHP, 2018: 8). Like the federal credit, state credit markets depend on the geographies of the prevailing tax regime and which taxpayers have income to offset. One developer working in a Midwest city with a significant tax credit industry told of how a regional bank would "buy" the state credits from him, and then "sell" them to their high net-worth individual and corporate clients. He explains:

> We have used the same tax-credit buyers many times, but not all the time. They change based on the supply and demand need, based on pricing, based on past relationships that went bad. Some aren't in business anymore, but we've had repeat buyers quite a few times like insurance companies and banks. There are a lot of big companies that make a ton of money that have a ton of tax liability. This local bank has internal banking relationships with people that need the credit. People in the bank work for their own client base (Interview #17, 22 February 2017).

State credits such as these may start in regional markets but quickly flow to the furthest reaches of the state where buyers benefit from urban processes, from which they are quite spatially removed.

Transferrable and bifurcated credits change hands multiple times, and every time they do a fee is collected. Audits of state historic credit programs like the ones just described find that selling credits diminishes their effectiveness. For example, statewide audits conducted in 2014 of the Missouri's historic tax credit program—the largest in the country—found that only $0.49 of every $1.00 in state tax credits actually went to the proverbial brick-and-mortar rehabilitation costs. The remaining $0.51 vanished in "fees," to investors, tax credit brokers, and other third parties (Office of Missouri State Auditor, 2014). In states like Missouri where state and federal historic tax credits are twinned, nearly half of the capital stack goes to investors and intermediaries, not to the project. Despite widespread objections from the preservation industry, Missouri's governor moved to cap the statewide historic tax credit program in 2017 (Governor's Committee, 2017).

Growing political interest in creating similar market-based incentives to encourage investment in distressed communities, deliver affordable housing, and preserve historic structures calls into question important issues around equity and redistribution that are central to fiscal geographies. For example, the 2017 Tax Cut and Jobs Act (TCJA) created the federal Opportunity Zone as a new tool to unleash capital by awarding 10-year tax breaks to investors who move capital gains from highly appreciated assets into underserved areas. Since the passage of TCJA, a wave of identical legislation spread across states to further amplify and align investment opportunities in cities. These programs make markets for social goods through processes of abstracting and unbundling property rights. While the marketization of these rights ultimately erodes the state's return on investment, there remains a strong push by the tax credit industry to find new functions and uses that fracture and commodify the built environment. If tax sheltering is a "model governmental initiative," as the state suggests (TPS, 2013), then urban financialization comes at a high cost to the public who ultimately pays the price for real estate profiteering.

9. Conclusions

Historic tax credits, like other sources of real estate financing, can be defined by their market demand. This paper demonstrated that in the last two decades, three factors encouraged the growing demand for historic tax credits. First, developers and investors reclassified thousands of devalued assets into frontiers for finance via architectural surveys. Second, layering state and federal historic tax credits expedited developer financing, enrolling urban redevelopment in the production of tax shelters. Third, loopholes between federal and state programs transformed physical elements of redevelopment into abstract values that circulate far beyond the city.

These findings make visible the ways in which the state introduces multiple financial markets to a single building. Commodifying and marketizing an array of property rights inside, above, and below a building reveals how variations of urban financialization co-exist in the same physical space. Focusing on capital stacks draws attention to overlaps between the geographies of taxation and investment, opening up fiscal geographies as an emergent field of study that encourages scholars to reconsider how financialization unfolds.

While a number of key points raised in this paper warrant future research and discussion, I conclude by focusing on two. First, politicians in the United States continue to legislate special tax treatment programs at the same time provisions in the tax code that devalue buildings remain in place. Rather than changing the tax code to discourage disinvestment by eliminating depreciation deductions, the state loops finance back to obsolete buildings. The continuous production of new inventories of assets from old buildings allows the cycle of real estate speculation to remain unbroken. These perverse incentives make it glaringly obvious that the state erodes its own fiscal stability, displacing its tax burden onto those without the means to avoid and evade it. Further, because tax benefits subsidize the profitability of underutilized and vacant structures, tax sheltering and avoidance is intimately tied to the affordability crisis unfolding across the global North (McKenzie and Atkinson, 2019; Tapp, 2019). Investigating the overlap between tax, (de)value, and housing affordability in an era of tax-free urban policy is fruitful area of research that critical urban and economic geographers are well positioned to advance (see Knuth, 2019).

Second, given the size of tax credit investment flowing into cities, it is important for scholars to interrogate the intersections and spatial outcomes of tax credits and other incentives that drive finance to the built environment. In order to better understand what appears to be a tax-free urbanization process, one potential avenue for future research could employ what Donald McNeill (2017: 121) terms "financial forensics," to identify the property rights markets in programs like Opportunity Zones, as well as the low-income housing and new markets tax credits. With the geography of investment mapping on to the geography of taxation, the use of tax credits under financialization is extending a hazy and speculative urban landscape, where recent geographic scholarship on the role of tax planning (Cameron, 2008; Wainwright, 2011) and offshore financial services (Beaverstock et al., 2013; Topfer and Hall, 2018; Wojcik, 2012) could help illuminate current patterns of property-led accumulation. While such work is "painstaking, detailed and time-consuming," (McNeill, 2017: 122), evidence suggests this approach is increasingly important as cities, now more than ever, are pocketed with non-tax spaces. Highlighting how geographies of tax makes and shapes the multiple markets that underpin the financialization of real estate offers a way to evaluate the nature of the state when it restricts its revenue and identify where possibilities exist for intervention.

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References

2020 Tax Policy Study Commission (2016). Report on the Ohio historic preservation tax credit. Available at: http://www.hannah.com/ShowDocument.aspx?ItemID=128593 (accessed 1 February 2019).
Aalbers, M.B., 2017. The variegated financialization of housing. Int. J. Urban Reg. Res. 41

(4), 542–554.
Aalbers, M.B., 2018. Financial geography I: Geographies of tax. Prog. Hum. Geogr. 42 (6), 916–927.
Abramson, D., 2016. Obsolescence: An architectural history. University of Chicago Press, Chicago.
Ball, M., 1994. The 1980s property boom. Environ. Plann. A 26 (5), 671–695.
Beaverstock, J.V., Hall, S., Wainwright, T., 2013. Servicing the super-rich: New financial elites and the rise of the private wealth management retail ecology. Regional Stud. 47 (6), 834–849.
Beitel, K., 2000. Financial cycles and building booms: a supply side account. Environ. Plann. A 32 (12), 2113–2132.
Beswick, J., Penny, J., 2018. Demolishing the present to sell off the future? The emergence of 'financialized municipal entrepreneurialism' in London. Int. J. Urban Reg. Res. 42 (4), 612–632.
Birch, K., Siemiatycki, M., 2016. Neoliberalism and the geographies of marketization: The entangling of state and markets. Prog. Hum. Geogr. 40 (2), 177–198.
Bronin, S., Rowberry, R., 2018. Historic preservation law in a nutshell, second ed. West Academic Publishing, St. Paul.
Cairns, S., Jacobs, J.M., 2014. Buildings must die: A perverse view of architecture. The MIT Press, Cambridge, MA.
Cameron, A., 2008. Crisis? What crisis? Displacing the spatial imaginary of the fiscal state. Geoforum 39 (3), 1145–1154.
Castree, N., 2003. Commodifying what nature? Prog. Hum. Geogr. 27 (3), 273–297.
Charney, I., 2001. Three dimensions of capital switching within the real estate sector: A Canadian case study. Int. J. Urban Reg. Res. 25 (4), 740–758.
Chen, H.Y., 2019. Cashing in on the sky: Financialization and urban air rights in the Taipei Metropolitan Area. Regional Stud. https://doi.org/10.1080/00343404.2019.1599104.
Clark, G.L., 2000. Pension fund capitalism. Oxford University Press, Oxford.
Coakley, J., 1994. The integration of property and financial markets. Environ. Plann. A 26 (5), 697–713.
Duca, J., Hendershott, P., Ling, D., 2017. How taxes and required returns drove commercial real estate valuation over the past four decades. In: American Economic Association annual meeting, Chicago, 6-8 January 2017. Available at: https://www.aeaweb.org/conference/2017/preliminary (accessed 1 February 2019).
Fainstein, S., 2001. The city builders: Property, politics, and planning in London and New York, revised edition. Blackwell, Oxford.
Feagin, J., 1987. The secondary circuit of capital: Office Construction in Houston, Texas. Int. J. Urban Reg. Res. 11 (2), 172–192.
Fernandez, R., Hofman, A., Aalbers, M.B., 2016. London and New York as a safe deposit box for the transnational wealth elite. Environ. Plann. A 48 (12), 2443–2461.
Fields, D., 2017. Unwilling subjects of financialization. Int. J. Urban Reg. Res. 41 (4), 588–603.
Fields, D., 2018. Constructing a new asset class: Property-led financial accumulation after the crisis. Econ. Geogr. 94 (2), 118–140.
General Accounting Office (GAO) (1986) Tax policy and administration: Historic preservation tax incentives. Available at: http://archive.gao.gov/t2pbat25/130733.pdf (accessed 1 August 2018).
Gotham, K.F., 2006. The secondary circuit of capital revisited: Globalization and the U.S. real estate sector. Am. J. Sociol. 112 (1), 231–275.
Gotham, K.F., 2016. Re-anchoring capital in disaster-devastated spaces: Financialisation and the Gulf Opportunity (GO) Zone programme. Urban Stud. 53 (7), 1362–1383.
Governor's Committee on Simple, Fair, and Low Taxes (2017) Tax credits: Recommendations to make Missouri a best-in-class state. Available at: https://ded.mo.gov/sites/default/files/TC%20Report%20FINAL.pdf (accessed 1 February 2019).
Guironnet, A., Attuyer, K., Halbert, L., 2015. Building cities on financial assets: the financialisation of property markets and its implications for city governments in the Paris city-region. Urban Stud. 53 (7), 1442–1464.
Haila, A., 1991. Four types of investment in land and property. Int. J. Urban Reg. Res. 15 (3), 343–365.
Hall, S., Jonas, A.E., 2014. Urban fiscal austerity, infrastructure provision and the struggle for regional transit in 'Motor City'. Cambridge J. Regions, Econ. Soc. 7 (1), 189–206.
Harvey, D., 1978. The urban process under capitalism: A framework for analysis. Int. J. Urban Reg. Res. 2 (1–4), 101–131.
Harvey, D., 1982. [2007] The Limits to Capital. Verso, London.
Historic Tax Credit Coalition (2010) First annual report on the economic impact of the federal historic tax credit. Available at: https://www.kiplinger.com/members/taxlinks/100319/Historic-tax-credit.pdf (accessed 18 June 2019).
Kay, K., 2016. Breaking the bundle of rights: conservation easements and the legal geographies of individuating nature. Environ. Plann. A 48 (3), 504–522.
Kay, K., 2018. A hostile takeover of nature? Placing value in conservation finance. Antipode 50 (1), 164–183.
Kinahan, K., 2019. The neighborhood effects of federal historic tax credits in six legacy cities. Housing Policy Debate 29 (1), 166–180.
Knuth, S., 2019. Cities and planetary repair: The problem with climate retrofitting. Environ. Plann. A 51 (2), 487–504.
Leith-Tetrault, J., 2018. The impact of tax reform on the federal historic tax credit one year later. J. Tax Credits 9 (11), 1–5.
Listokin, D., Lahr, M., Heydt, C., 2013. Annual report on the economic impact of the federal historic tax credit for FY 2012. Available at: https://www.nps.gov/tps/tax-incentives/taxdocs/economic-impact-2012.pdf (accessed 1 August 2018).
Logan, J., Molotch, H., 1987. [2007] *Urban fortunes: The political economy of place*. University of California Press, Berkeley, CA.
March RH (2012) The making of an asset class. Wharton Real Estate Review (Spring): 1-6. Available at: http://realestate.wharton.upenn.edu/wp-content/uploads/2017/03/726.pdf (accessed 18 June 2019).
Mason, R., 2005. Economics and historic preservation. The Brookings Institution, Washington D.C.
McKenzie, R., Atkinson, R., 2019. Anchoring capital in place: the grounded impact of international wealth chains on housing markets in London. Urban Stud. https://doi.org/10.1177/0042098019839875.
McNeill, D., 2017. Global Cities and Urban Theory. Sage Publishers, London.
McNeill, D., 2019. Volumetric urbanism: The production and extraction of Singaporean territory. Environ. Plann. A. https://doi.org/10.1177/0308518X19830699.
National Trust for Historic Preservation (NTHP) (2010) Historic rehabilitation tax credit recapture survey. Available at: https://www.novoco.com/sites/default/files/atoms/files/historic-tax-credit_recapture-survey_021512.pdf (accessed 1 February 2019).
National Trust for Historic Preservation (NTHP) (2014) Catalyst for change: The federal historic tax credit: Transforming communities. Available at: http://www.placeeconomics.com/wp-content/uploads/2016/08/catalytic-study-final-version-june-2014.pdf (accessed 1 February 2019).
National Trust for Historic Preservation (NTHP) (2016) Atlas of ReUrbanism. Available at: http://forum.savingplaces.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=4219579b-fd10-8cea-1fd1-c8763bb07d81&forceDialog=0 (accessed 1 February 2019).
National Trust for Historic Preservation (NTHP) (2018) State historic tax credits: Maximizing preservation, community revitalization, and economic impact. Available at: https://forum.savingplaces.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=ee094e94-4dc7-db43-ae3b-9eaae3e7f179&forceDialog=0 (accessed 1 February 2019).
Newman, H., 2001. Historic preservation policy and regime politics in Atlanta. J. Urban Affairs 23 (1), 71–86.
Office of Missouri State Auditor (2014) Historic preservation tax credit program. Available at: https://app.auditor.mo.gov/repository/press/2014018832873.pdf (accessed 1 February 2019).
Office of the Comptroller of the Currency (OCC) (2015) Historic tax credits: Bringing new life to older communities. Available at: https://www.occ.gov/topics/community-affairs/publications/insights/insights-historic-tax-credits-may-2015.pdf (last accessed 18 June 2019).
O'Neill, P.M., 2013. The financialisation of infrastructure: The role of categorisation and property relations. Cambridge J. Regions, Econ. Soc. 6 (3), 441–454.
Peck, J., 2012. Austerity urbanism. City 16 (6), 626–655.
Peck, J., Tickell, A., 2002. Neoliberalising space. Antipode 34 (3), 380–404.
Peck, J., Whiteside, H., 2016. Financializing Detroit. Econ. Geogr. 92 (3), 235–268.
Prasad, M., 2012. The popular origins of neoliberalism in the Reagan tax cut of 1981. J. Policy History 24 (3), 351–383.
Reichl, A., 1997. Historic preservation and progrowth politics in US cities. Urban Affairs Rev. 32 (4), 513–535.
Roberts, S., 1995. Small place, big money: The Cayman Islands and the international financial system. Econ. Geogr. 71 (3), 237–256.
Robertson, M., 2011. Measure and alienation: Making a world of ecosystem services. Trans. Inst. British Geograph. 37 (3), 386–401.
Rogers, D., Koh, S.K., 2017. The globalization of real estate: The politics and practice of foreign real estate investment. Int. J. Housing Policy 17 (1), 1–14.
Rutland, T., 2010. The financialization of urban redevelopment. Geogr. Compass 4 (8), 1167–1178.
Ryberg-Webster, S., 2015a. The landscape of urban preservation: A spatial analysis of federal rehabilitation tax credits in Richmond, Virginia. J. Urban Affairs 37 (4), 410–435.
Ryberg-Webster, S., 2015b. Urban policy in disguise: a history of the federal historic rehabilitation tax credit. J. Plann. History 14 (3), 204–223.
Ryberg-Webster, S., Kinahan, K., 2017. Historic preservation in declining city neighbourhoods: Analysing rehabilitation tax credit investments in six US cities. Urban Stud. 54 (7), 1673–1691.
Rypkema, D., 1991. The economics of historic preservation. National Trust for Historic Preservation, Preservation Books, Washington, DC.
Sanfelici, D., Halbert, L., 2019. Financial market actors as urban policy-makers: the case of real estate investment trusts in Brazil. Urban Geogr. 40 (1), 83–103.
Smith, N., 1998. Comments on David Listokin, Barbara Listokin, and Michael Lahr's "The contributions of historic preservation to housing and economic development": Historic preservation in a neoliberal age. Housing Policy Debate 9 (3), 479–485.
Stein, S., 2019. Capital city: Gentrification and the real estate state. Verso, New York.
Tapp, R., 2019. 'Renters revolt': Revisiting City of Quartz to understand Los Angeles' housing crisis. City: Anal. Urban Trends Cult. Theory Policy Act. 23 (1), 123–127.
Tapp, R., Kay, K., 2019. Fiscal geographies: "Placing" taxation in urban geography. Urban Geogr. 40 (4), 573–581.
Technical Preservation Services (TPS) (2012) Historic preservation tax incentives. Available at: https://www.nps.gov/tps/tax-incentives/taxdocs/about-tax-incentives-2012.pdf (accessed 18 June 2019).
Technical Preservation Services (TPS) (2013) Federal tax incentives for rehabilitating historic buildings: 35th Anniversary. Available at: https://www.nps.gov/tps/tax-incentives/taxdocs/tax-incentives-35anniversary.pdf (accessed 1 February 2019).
Technical Preservation Services (TPS) (2018). Annual report on the economic impact of the federal historic tax credit for FY 2017. Available at: https://www.nps.gov/tps/tax-incentives/taxdocs/economic-impact-2017.pdf (accessed 18 June 2019).
Technical Preservation Services (TPS) (2019) Annual report on the economic impact of the federal historic tax credit for FY 2018. Available at: https://www.nps.gov/tps/tax-incentives/taxdocs/tax-incentives-2018annual.pdf (accessed 18 June 2019).
Töpfer, L.M., Hall, S., 2018. London's rise as an offshore RMB financial centre: State–finance relations and selective institutional adaptation. Regional Stud. 52 (8), 1053–1064.
United States Department of the Treasury (1999) The problem of corporate tax shelters:

Discussion, analysis and legislative Proposals. Available at: https://www.treasury.gov/resource-center/tax-policy/Documents/Report-Corporate-Tax-Shelters-1999.pdf (accessed 18 June 2019).

United States Department of the Treasury (2002) Rehabilitation tax credit. Internal Revenue Service 3149-109 (83711M).

Van Loon, J., Aalbers, M.B., 2017. How real estate became 'just another asset class': The financialization of the investment strategies of Dutch institutional investors. Eur. Plann. Stud. 25 (2), 221–240.

Wainwright, T., 2011. Tax doesn't have to be taxing: London's 'onshore' finance industry and the fiscal spaces of a global crisis. Environ. Plann. A 43 (6), 1287–1304.

Wainwright, T., 2013. Which crisis? The need to understand spaces of (non) tax in the economic recovery. Environ. Plann. A 45 (5), 1008–1012.

Waite, T., 1988. Tax reform slowing historic rehabilitation. The New York Times 2 December. Available at: http://www.nytimes.com/1988/12/25/realestate/tax-reform-slowing-historic-rehabilitation.html (accessed 1 February 2019).

Ward, C., Swyngedouw, E., 2018. Neoliberalisation from the ground up: Insurgent capital, regional struggle, and the assetisation of land. Antipode 50 (4), 1077–1097.

Weber, R., 2015. From boom to bubble: How finance built the new Chicago. University of Chicago Press, Chicago.

Weber S (1979) Historic preservation incentives of the 1976 Tax Reform Act: An economic analysis. US Department of Commerce Department of Standards. Available at: https://www.govinfo.gov/content/pkg/GOVPUB-C13-3b38908e60f457e7deb889a16ec5d203/pdf/GOVPUB-C13-3b38908e60f457e7deb889a16ec5d203.pdf (accessed 1 February 2019).

Wijburg, G., 2019. Reasserting state power by remaking markets? The introduction of real estate investment trusts in France and its implications for state-finance relations in the Greater Paris region. Geoforum 100, 209–219.

Wissoker, P., Fields, D., Weber, R., Wyly, E., 2014. Rethinking real estate finance in the wake of a boom: a celebration of the twentieth anniversary of the publication of the double issue on property and finance in Environment and Planning A. Environ. Plann. A 46 (12), 2787–2794.

Wojcik, D., 2012. Where governance fails: Advanced business services and the offshore world. Prog. Hum. Geogr. 37 (3), 330–347.