

## **Tax-incentivized housing production and the affordability crisis: International lessons from the low-income housing tax credit program in the United States**

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### **Abstract**

Historically, many Western nations have subsidized public and affordable housing with public grants and government-backed loans. However, in response to declining housing affordability and high land and development costs, various national governments are now introducing tax-based housing incentives to promote affordable housing production by private actors. Understanding the broader implications of this shift to tax subsidy and private investment, this review reflects on the market outcomes of arguably the most documented tax-based housing program in the Western world: the low-income housing tax credit program (LIHTC) in the United States. Although LIHTC remains a unique and distinctive instrument, some valuable lessons can be learned from it. In comparative terms, the program offers stricter affordability requirements than its counterparts introduced in countries like Australia, Chile, Colombia, France and Germany. Furthermore, it is accompanied by stronger regulations to commit investors and developers to the housing cause on a more long-term basis. However, despite potential benefits, tax-incentivized housing production does not necessarily result in efficient or equitable housing solutions. In non-American contexts, its increased importance coincides with the emergence of market-oriented social welfare systems where affordable rents are set higher and where tenure is more flexible and heterogenous.

**Keywords:** fiscal instruments; housing affordability; affordable housing finance; affordable housing crisis; housing privatization; LIHTC.

## Introduction

Over the past few decades, many developed countries have commercialized the provision of low-income and affordable housing, introducing a stronger role for tax-incentivized, private housing production (Blessing and Gilmour, 2011). In some European contexts with France as prime example, this shift to fiscal housing schemes can be regarded as a supplement to – or replacement of - traditional ‘aid to bricks and mortar’ where public, rather than private, developers play a central role (Vergriete, 2013; Wijburg, 2019). However, in the current political conjuncture, tax-based housing production incentives are also introduced in response to declining housing affordability and high development and land acquisition costs (Wetzstein, 2017; Anacker, 2019). In Germany, for example, the federal government introduced in 2019 a ‘Special Depreciation for Rental Housing Production’, allowing developers to deduct an additional 20 percent of manufacturing costs from their tax liability if they build affordable homes (Lerbs and Nobbe, 2021). Similar tax incentives or investment vehicles are created in Australia, Chile, Colombia, Portugal, Spain and Turkey (OECD, 2022), where especially Australia’s discontinued ‘National Rental Affordability Scheme’ and Portugal’s ‘Controlled Housing Cost’ speak to the imagination (Ibid; see also Lameira et al., 2022).

However, even though tax instruments are integral to affordable housing provision in countries like the United States (Holmans *et al.*, 2002; Rowley *et al.*, 2016: 59-63), its implications for the social housing and affordability sector remain somewhat under investigated in other national contexts. This is not only a shortcoming because tax-based private investment substantially impacts housing tenure, production and affordability requirements (Haffner and Hulse, 2021; Kim, 2021; Paccoud *et al.*, 2021). It also entails increased involvement of private developers and investors in a sector traditionally dominated by quasi-public entities and not-for-profit providers (Lawson *et al.*, 2018; Tapp and Kay, 2019; Aigner, 2021). How, then, can we understand the rise of tax-incentivized housing production in a broader world context? Could it substitute or complement the more ‘traditional’ social housing model of direct grants and government loans? Or is it a measure of ad hoc privatization which only temporarily, and possibly awkwardly, preserves housing affordability?

This policy review seeks to answer these research questions by reviewing one of the most documented tax-based housing programs in the Western world: the low-income housing tax credit

(LIHTC) program in the United States. The first observation it entertains is that LIHTC-like programs are not the most cost-efficient to provide affordable and equitable housing outcomes (Stegman, 1991; Scally *et al.*, 2018). Despite potential benefits, tax-incentivized housing projects rely in many cases on additional gap funding and other public subsidies to maintain long-term affordability (Schwartz, 2021: chapter 5). What is more, tax-incentivized housing units are not always built in neighborhoods where demand is high (Ibid: 129), but rather in areas where tax returns can be optimized and where developments are economically viable (Scally *et al.*, 2018). As such, direct public housing grants are considered more effective (cf. Lawson *et al.*, 2018), not in the least because they can be targeted at lower income groups.

Nevertheless, a second observation is that LIHTC remains a good reference for understanding the recent shift to private investment and tax subsidy in some non-American contexts. In comparative terms, the LIHTC program offers stricter affordability requirements than its counterparts introduced in countries like Australia, Chile, Colombia, France and Germany (OECD, 2022). Furthermore, it is accompanied by stronger guidelines to commit investors and developers to the housing cause on a more long-term basis (Ibid). This does not necessarily mean that LIHTC is better than tax-incentivized programs introduced in non-American contexts where direct public housing grants remain a common practice. However, it does mean that new market-oriented forms of social welfare are emerging where affordable rents are set higher, tenure is more flexible, and investors and developers anticipate tax returns and future rental liberalization (cf. Wainwright and Manville, 2017; Tapp and Kay, 2019; Belotti and Arbaci, 2021; Lawson *et al.*, 2022).

By discussing these common but divergent outcomes of tax-incentivized housing policy, this review contributes to scholarship on the marketization and privatization of public and affordable housing in a twofold way. First, by contextualizing the rise of tax-incentivized housing production in a broader world context, it demonstrates that public and affordable housing are increasingly being restructured in the aftermath of the Great Recession (Alves, 2020; Lima, 2020; Preece *et al.*, 2020; Van Gent and Hochstenbach, 2020). As such, affordable rents ‘shift upwards on the income ladder’ (Haffner and Hulse, 2020: 14) and ‘public welfare tasks are increasingly produced, managed, and funded by institutional or corporate investors – and largely in accordance with their financial needs and [tax] expectations’ (Wijburg and Waldron, 2020: 115).

Second, by taking the LIHTC program as a reference, the review also contributes to ‘comparative rather than contrastive’ housing research emphasizing commonalities between national housing systems (Aalbers, 2022) and a general tendency towards tax incentives (Holmans *et al.*, 2002; Lawson *et al.*, 2009). In that capacity, the review not only shares important lessons for tax-based housing production in other national contexts than the United States (OECD, 2022). It also shows that comparative research can reveal ‘remarkable variegation... with considerable path dependency in terms of housing policies, practices and market restructuring’ (Kadi and Ronald, 2014: 268).

### **Tax-incentivized housing production and the affordability crisis**

In comparative housing research, tax-incentivized housing production is often associated with the United States where the ‘Low Income Tax Credit’ (LIHTC) program has gained an international reputation (Holmans *et al.*, 2002; Rowley *et al.*, 2016: 59-63). However, in recent years, while responding to declining housing affordability and high development costs, many other developed nations are introducing tax-incentivized housing programs in their national jurisdictions (see e.g., Salvi del Pero *et al.*, 2016; OECD, 2022). In some ways, this international trend can be understood as an example of policy mobility (cf. Robinson, 2015). After all, it is not the last time that American inventions such as mortgage securitization, credit derivatives and real estate investment trusts (REITs) find their way into other institutional settings than the United States (Aalbers *et al.*, 2011; Wainwright, 2015; Aveline-Dubach, 2016; Smyth *et al.*, 2020; Gabor and Kohl, 2022).

Nevertheless, in a context of public austerity and post-Fordist welfare reform, there are also strong endogenous factors pushing for private investment and tax subsidy (see e.g., Goering and Whitehead, 2017; Lawson *et al.*, 2018). On the one hand, Jacobs and Manzi (2017) theorize that public expenditure restrictions since the 1970s encouraged many national governments to promote (tax-incentivized) supply-side subsidies to owner-occupied housing and the development sector. On the other hand, declining housing affordability caused by the resurgence of private rented housing encouraged policy changes as well (Ronald and Kadi, 2018; Byrne, 2020; Lima, 2020). Not only did private developers and corporate bond investors mark their entry into public and affordable housing (Aalbers *et al.*, 2020; Archer and Cole, 2021). The rise of social housing REITs and other for-profit registered providers (FPRP) must also be associated with tax schemes

and tax-exempt corporate regulations (Westermann *et al.*, 2019; Wijburg and Waldron, 2020; Belotti, 2021).

Of course, this broader shift to tax-incentivized housing production does not necessarily undermine existing social housing systems as many countries continue allocating public funds to capital grants and government-backed loans (Pittini *et al.*, 2017; Nasarre-Aznar *et al.*, 2021). Besides, ‘fiscal aid’ is not a novel phenomenon and tax incentives have always been central to housing and real estate (Harloe, 1995). However, within the parameters of existing social housing programs, the shift to private investment and tax subsidy coincides with broader attempts to encourage market forces in the quasi-public housing sector (Preece *et al.*, 2020; Byrne and Norris, 2022). In that capacity, it is even complementing the emerging Build-to-Rent sector where governments encourage institutional investors to build multifamily rental portfolios (Lawson *et al.*, 2018; Pawson *et al.*, 2019; Nethercote, 2020). In fact, while recent tax reforms in the United Kingdom strongly discouraged property investments by private landlords (Scanlon *et al.*, 2018; Abidoye *et al.*, 2022), institutional investors received a much better tax treatment (Nethercote, 2020; Brill and Durrant, 2021).

Within a broader OECD-context, two historic examples of tax-based affordable housing production come to mind. In 1975, the government of Chile introduced the ‘VAT Credit for Housing Construction’ (*Crédito de IVA para la construcción de viviendas*) where private construction companies can deduct up to 65 percent of VAT-related land proceeds providing that the rents or sale prices are kept affordable and construction costs are capped (Del Pero, 2016; Funes Arancibia & Rojas Riquelme, 2018).<sup>i</sup> In 1986, France followed with the introduction of ‘fiscal aid’ and ‘rental investment’ (*l’investissement locatif*) targeted at new developments and rehabilitation. In its current form of the Dispositif Pinel (2015), private investors are allowed to deduct 12 percent in development costs for the first six years or 18 percent for the first nine years, providing that rents remain affordable for 9 years (OECD, 2020).<sup>ii</sup> Rents are based on predetermined square meter prices depending on geographic location, tenure (social or intermediate) and housing priority (see also Bigorgne and Le Corre, 2021; Le Goix *et al.*, 2021).

In the current political conjuncture of declining housing affordability, other examples of tax-incentivized housing production are gaining attention too. For example, Australia’s 2008 ‘National Rental Affordability Scheme’ (NRAS) was discontinued in 2014 for political reasons (Rowley *et al.*, 2016) but still offers tax benefits to ongoing projects as long as property is rented

out for 10 years at a maximum of 80 percent of market rate (Blessing and Gilmour, 2011: 462). Likewise, Portugal's national government introduced in 2020 the 'Controlled Housing Cost'-system (*Habitação a Custos Controlados*) which allows investors and developers to receive annual tax benefits providing that they build affordable units which remain affordable for the duration of 25 years (Lameira et al., 2022). Affordable rents are set at 15 to 30 percent of a tenant's income and are based on the 'Affordable Leasing Program' (*Programa de Arrendamiento Asequible*) introduced in 2019 (Travassos et al., 2020; Santos and Ribeiro, 2021).

Other examples entail more ad hoc responses involving depreciation allowances and 'accelerated depreciation.' Germany, for example, introduced in 2019 the 'Special Depreciation for Rental Housing Production' (*Sonderabschreibung für den Mietwohnungsneubau*) allowing developers and investors to deduct an additional 20 percent of manufacturing costs from their tax liability providing that construction costs are restricted to the lower end of the market (OECD, 2022). In Colombia, the government introduced in 2020 another tax relief for social and priority housing (*Rentas exentas asociadas a la vivienda de interés social y la vivienda de interés prioritario*). In Australia, after the 'National Rental Affordability Scheme' was discontinued in 2014, the government introduced in 2019 a withholding tax rate of 15 percent to non-resident 'Management Investment Trusts' (MIT). As such, non-resident MITs are encouraged to invest directly into affordable housing or to build homes for eligible housing providers (OECD, 2022). In Turkey and Spain similar tax incentives are introduced or amended (Ibid).

All these global examples show that tax-incentivized affordable housing production is on the rise (see Table 1 for an overview). Nevertheless, there is relatively little known about how tax incentives will affect the production and management of affordable housing in the medium to long run. With exception of France (Vergiete, 2013), most programs are introduced in recent years and require further amendments and investor confidence before they gain mainstream status (cf. Gotham, 2009; Rowley et al., 2016). Furthermore, although some studies scrutinize the effects of 'patient capital' investment into the affordable housing sector (Wijburg and Waldron, 2020; Bigorgne and Le Corre, 2021; Brill et al., 2022), they seldom focus on tax treatment and the fiscal aspects of housing development (but see Lawson et al., 2009; Pawson and Martin, 2021). This makes it unclear how tax credits and other incentives impact broader housing market developments.

Against that backdrop, the American LIHTC experience can help foregrounding the potential impact of emerging tax subsidy in other national housing contexts (OECD, 2022). Not only has the LIHTC program over time evolved into one of the largest housing programs in the United States (Sally *et al.*, 2018). Its merits and flaws have been widely documented too (McClure, 2019; Deng, 2020). Even when LIHTC-like aspects are not directly implemented in other housing settings, informal comparisons remain possible. For example, those countries that introduce more straightforward depreciation allowances (OECD, 2022) closely resemble the American system from before the LIHTC program (Harloe, 1995). As such, a comparative assessment of LIHTC will help to identify the common but divergent outcomes of tax-incentivized housing policy outside the United States.

In the next three sections I discuss the LIHTC program’s general performance history and assess its wider policy and affordability outcomes. Thereafter, I use the LIHTC example to reflect on the implications of tax-incentivized housing production in a broader world context. Despite potential benefits, I argue that fiscal housing schemes do not necessarily result in efficient or equitable housing solutions. On the one hand, they coincide with the emergence of market-oriented housing models reconciling public needs and private goals (Rosenman, 2019; Tapp, 2019; Tapp and Kay, 2019). On the other, they are part of a broader housing economy where tax returns and financial expectations increasingly inform investment and development decisions (cf. Wainwright and Manville, 2017).

Table 1: Fiscal housing policy of select OECD countries.

Country	Fiscal instrument	Tax reduction	Tenure type	Developer/Investor type
<b>Australia</b>	Managed Investment Trust (MIT).	15 per cent concessional withholding tax rate on income and capital gains.	Development of affordable rental dwellings.	Non-resident investors.
<b>Chile</b>	VAT Credit for Housing Construction (DL N°901/1975 Art. 21) (Crédito de IVA para la construcción de	Deduct 65% of value-added tax on the sale of property.	Affordable owner-occupied dwellings.	Construction companies.

	viviendas (DL N ° 901/1975, Art. 21)).			
<b>Colombia</b>	Tax relief for social interest housing and priority interest housing (Rentas exentas asociadas a la vivienda de interés social y la vivienda de interés prioritario).	Tax relief for social housing and priority housing.  The value-added tax paid to acquire construction materials for social housing projects can be reclaimed.	Affordable owner-occupied and rental dwellings.	All types of property developers are eligible.
<b>France</b>	Income tax credit to encourage rental investment (Dispositif de défiscalisation Pinel en faveur de l'investissement locatif intermédiaire).	Tax credits if dwellings are let at affordable rent for nine years.  The global amount of tax credit can reach up to 21% in French metropolitan areas (29% in overseas territories).	Affordable rental dwellings.	Natural persons (taxpayers) who have permanent residence in France.  Investments can be made through syndicators.
<b>Germany</b>	Special depreciation allowance for new rented housing (Sonderabschreibung für den Mietwohnungsneubau).	Special annual allowance of 5% of acquisition or manufacturing costs for a period of four years.  Special allowance is in addition to the linear depreciation allowance of 2%.	Affordable rental dwellings.	All types of property developers are eligible.
<b>Portugal</b>	Controlled Housing Cost (Habitação a Custos Controlados).	This scheme includes financial support from the State through direct funding and tax benefits.	Affordable owner-occupied and rental dwellings.	Legal persons/companies, local/regional authorities.



<b>Spain</b>	Tax relief.	Tax relief to property developers to finance the construction of affordable housing.	Affordable owner-occupied and rental dwellings.	All types of property developers are eligible.
<b>Turkey</b>	Urban Transformation (Kentsel Dönüşüm).	This scheme offers direct grants, tax and fee exemptions and construction loan support.	Undefined, yet can be used for affordable owner-occupied and rental dwellings.	All types of property developers are eligible.
<b>United States</b>	Low Income Housing Tax Credit program (LIHTC).	Investors receive annual tax credits for a 10- year period but cannot withdraw the investment for 15 years.	Affordable rental dwellings.	Private and non-profit property developers.  In most cases, tax credits are sold to investors and syndicators.  In some cases, tax credits are issued to non-profit entities.

Source: Adapted from OECD, 2022. <https://www.oecd.org/els/family/PH5-1-Measures-financing-affordable-housing-development.pdf>

**Low-income housing tax credit in the United States**

During most of the postwar era, the U.S. government used ‘depreciation allowance’ as tax incentive to encourage private investments in housing production (Schwartz, 2021: 109). This incentive was made available automatically and in unlimited amounts, leaving investors and affluent families to invest in different rental housing segments (Ibid). However, following the introduction of the 1986 Tax Reform Act, depreciation allowances (including their accelerating form) were reduced or eliminated and a new system was introduced. Rather than having investors to receive ‘straight line’-depreciation, they had to apply at state level for federal tax credits capped annually and to be used for low-income housing only.

Indeed, in 1987, the Low-Income Housing Tax Credit Program (LIHTC) was created to stimulate private investment in social rented housing (O’Regan and Horn, 2013). Over the years, the program contributed to the production of more than 3 million homes nation-wide, making it

the largest U.S. housing program along with tenant-based rental assistance, Section 8 vouchers and HOME (Scally *et al.*, 2018). In some good years, the program produces more than 100,000 units, thereby also contributing to additional benefits, such as local job creation, tax income and urban revitalization (Ibid; see also Woo *et al.*, 2016). However, depending on market volatility and local demand for tax credits, the net rate of housing production varies annually and geographically. In 2016, less than 75,000 homes received funding, of which 42,000 were new constructions (Schwartz, 2021: 138).

By its very essence, the LIHTC program enables developers to apply at their respective states for tax credits which are provided by the Internal Revenue Service on the basis of population headcount (Cummings and DiPascale, 1999). These tax credits can subsequently be sold to investors that wish to provide cash equity in exchange for a 99% ownership share and federal tax reductions (Stearns, 1988). In many cases, investors do not buy their tax credits directly but invest in syndicated investment funds which buy the credits of multiple LIHTC-projects (see Figure 1). Nevertheless, the LIHTC program enables investors to annually reclaim their dollar-to-dollar tax credits over a period of ten years (HUD, 2020). After 15 years, when the compulsion period of LIHTC ends, investors can sell the property and ‘exit’ the development (Dewar *et al.*, 2020).<sup>iii</sup> In the meantime, investors reduce the needs of interest-bearing mortgage financing and provide necessary upfront equity covering a large fraction of eligible development costs (HUD, 2020).

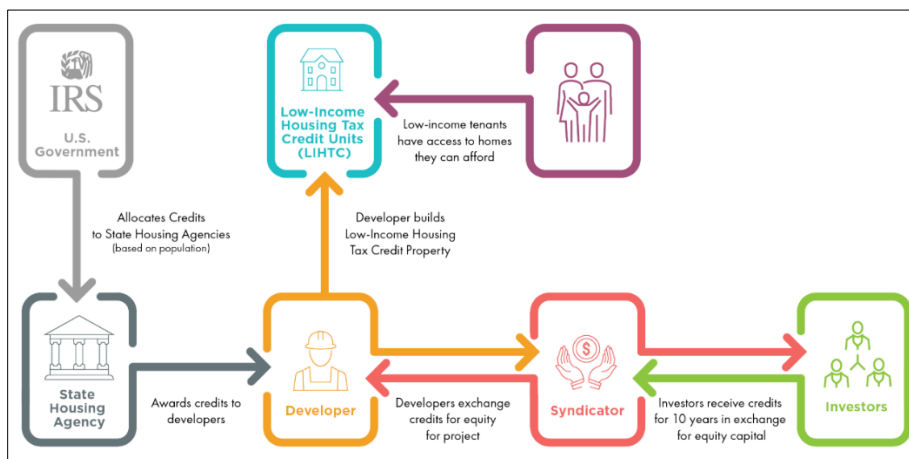
There are two types of LIHTC: the 9% and 4% credit.<sup>iv</sup> The first is mostly used for new construction and substantial rehabilitation (HUD, 2020: 29). The second is mainly used for moderate rehabilitation or for purchasing and remodeling existing social housing units (Ibid).<sup>v</sup> As long as the 15-year compliance period lasts, both 9% and 4% projects must meet several income and tenure requirements: households earning up to 80% of area median gross income (AMI) are eligible for LIHTC homes as long as the average income of all households served is 60% of AMI or below (Scally *et al.*, 2018: 2).<sup>vi</sup> Rents are capped at a maximum of 30 percent of either 50 or 60 percent of AMI. When the 15-year compulsion period ends, the rental units need to stay affordable for another fifteen years (HUD, 2020), with some states even requiring longer affordability periods (McClure, 2019). In some cases, when affordability requirements are not respected, LIHTC investors or new owners can be penalized by the Internal Revenue Service (Ibid).

However, even though investors are limited partner of LIHTC projects, they do not have an active role in management and seldom receive cash flow from property operations (Blessing

and Gilmour, 2011). In general, limited partnership agreements limit the financial benefits to tax credits and depreciation, and in some cases to a share of the proceeds of an eventual property sale (CohnReznick, 2018). As such, the different roles between limited (the investor or syndicator) and general partner (the actual manager of the property) are well defined and monitored by a tax credit-approving local authority known as Participating Jurisdiction (PJ). Consequently, only a few examples of malicious investment activity have hitherto been reported (but see Davenport, 2019; Washington State Finance Commission, 2019).<sup>vii</sup>

In general, LIHTC investors favor investing in housing projects involving a 100 percent of LIHTC units (O’Regan and Horn, 2013: 603). However, in larger urban redevelopment projects, not in the least to obtain additional public gap funding, investors sometimes commit themselves to mixed-income developments involving both LIHTC housing and other forms of tenure (Deng, 2011). In such examples, clear boundaries are set between publicly subsidized units (including LIHTC) and market-rate units that receive no public subsidy (Wijburg, 2021). However, the extra income earned with market-rate units can be used to improve the financial solvability of LIHTC-involving housing projects. Mixed-income development also resonates with the policy ambition to reduce the concentration of poverty into single-income housing estates (Goetz, 2015). By housing different income groups in a single estate or area, it is believed that social cohesion and mobility improves.

Figure 1: Agency involved in the LIHTC program.



Source: Taken from Affordable Housing Tax Credit Coalition, 2019. <https://www.taxcreditcoalition.org/wp-content/uploads/2018/08/Introduction-to-LIHTC-and-AHCIA.pdf>

## Lower rents in exchange for tax benefits?

Over the years, LIHTC has proven to be a quite robust instrument with demand for tax credits only decreasing during the crisis when corporate profits collapsed and tax credits were less in demand (Schwartz, 2021: 124). Unlike American market innovations like mortgage securitization, credit derivatives or tax-increment financing (Crump *et al.*, 2008; Smith *et al.*, 2008; Gotham, 2009; Weber, 2015), LIHTC has not led to many bankruptcies or over-financed properties. In the absence of greater public commitments, it is therefore not surprising that Biden-Harris administration considers LIHTC instrumental to solving America’s affordable housing crisis (The White House, 2021).

Indeed, from a pro forma perspective, tax credits have become crucial in keeping capital-intensive housing projects operational during the first development years. By reducing the reliance on interest-bearing mortgage financing, LIHTC covers for most of the development costs and associated debt repayments. In our financial modeling example of Table 2, we can see what happens (i) when tax credits are applied in Model 1 (where debt is kept at an annual 160k), and (ii) when they are not applied in Model 2 (where debt increases with 25% to 200k).<sup>viii</sup> Both models struggle to generate a net cash flow in the first year where full occupancy and rental income has not stabilized. However, while model 1 starts to generate a (steadily declining) net cash flow after year 1, model 2 remains in the red margins. In fact, its net operating income is not sufficient to cover its annual debt service (in our example the debt-service coverage ratio is 98% in 2030 and 93% in 2035). Therefore, this example shows that without the use of tax credits rents need to be raised to higher levels in order to repay mortgage financing.

Table 2: Two operating pro forma examples.

<b>Growth assumptions:</b>						
Debt service model 1 (LIHTC)	\$160,000					
Debt service model 2 (no LIHTC)	\$200,000					
Gross rental income	\$550,000					
Rental income	1%					
Operational expenses	2%					
Rent loss	7%					
<b>Model 1</b>	2022	2023	2025	2030	2033	2035

Gross rental	550,000	555,500	566,666	595,571	613,618	625,951
Rent loss	150,000	38,885	39,667	41,690	42,953	43,817
Other revenue	5,000	5,050	5,152	5,414	5,578	5,690
Net Rental Revenue	405,000	521,665	532,150	559,295	576,243	587,825
Operational expenses	310,000	316,200	328,974	363,214	385,446	401,018
Net Operating Income	95,000	205,465	203,176	196,081	190,797	186,807
Debt service	160,000	160,000	160,000	160,000	160,000	160,000
Cash Flow (after debt service)	-65,000	45,465	43,176	36,081	30,797	26,807
DSCR	0.59	1.28	1.27	1.23	1.19	1.17

<b>Model 2</b>	2022	2023	2025	2030	2033	2035
Net Operating Income	95,000	205,465	203,176	196,081	190,797	186,807
Debt service	200,000	200,000	200,000	200,000	200,000	200,000
Cash Flow (after debt service)	-105,000	5,465	3,176	-3,919	-9,203	-13,193
DSCR	0.48	1.03	1.02	0.98	0.95	0.93

*Source:* Pro forma calculations are based on an example from the U.S. Department of Housing and Urban Development (2020: 55).

Of course, the LIHTC program relies heavily on private sector funding of which the annual amount is not publicly guaranteed (Harloe, 1995). However, institutional amendments support the creation of a relatively steady pool of private investment (Schwartz, 2021: 123). First, the Community Reinvestment Act (CRA) requires American corporations (mainly commercial banks and savings institutions) to reinvest in low-income communities where they draw deposits from (Havard, 2017). In doing so, they receive beneficial ratings necessary to comply with CRA regulations (Amstadt, 2017). Second, there is a general guideline that 10 percent of all tax credits should be allocated to not-for-profit actors. Especially when investors leave at year 15, not-for-profit actors mark their entry into the LIHTC market (Deng, 2020), leading Blessing and Gilmour (2011) to estimate that the actual percentage of not-for-profit involvement is even higher than 10 percent.

Still, 86 percent of LHITC investors consists of commercial banks and corporate investors looking for reduced tax liability and beneficial treatment under the Community Reinvestment Act (CohnReznick, 2018: 14). It is therefore not surprising that LIHTC investors are not willing to pay an equal amount of dollars for a x amount of tax credits (Keightley and Stupak, 2014). Indeed, due to the time value of money, the present value of 10-year in tax credits is typically discounted at a rate which in 2020 was set around 5 percent (Schwartz, 2021: 123). Accordingly, the present value of an x amount of tax credits can be calculated by the following formula:

$$\text{PV tax credits} = \sum_{t=1}^{10} \frac{k \times E}{(1+r)^{t-1}}$$

Where:

k = discount rate of tax credit

E = eligible costs

r = discount rate of a Treasury Bond

t-1 = the number of years.

By and large, this ‘trade-off’ between tax credits and upfront equity payments benefits all involved actors. Indeed, our example in Table 3 shows that for a 10-year return of \$338k in tax credits the rational investor is willing to pay an amount of \$2,74 million. However, because the difference between \$3,38 and \$2,74 million is \$639k, our example helps reducing direct public housing costs with almost 81 percent.<sup>ix</sup> Furthermore, the discounted investment return of 5 percent is much lower than the standard risk premium (7 to 9 percent) applied in commercial real estate markets (Coen *et al.*, 2018). All in all, regulations require that tax-subsidized rental homes need to stay affordable for a longer period than the 10-year discount period. Even when investors leave at year 15, they must remain affordable for another fifteen years.

Table 3. Tax credit example and present value calculation.

<b>Breakdown of tax credits</b>			
Total development costs	\$6,400,000		
Amount of eligible basis	\$5,000,000		
Applicable fraction	75%		
Qualified basis	\$3,750,000		
LIHTC Percentage (9%)	9%		
Annual credit amount	\$337,500		
LIHTC Period	10 years		
Total LIHTC	\$3,375,000		
Present value LIHTC	\$2,736,390		
Effective subsidy	73%		
Discount rate	5%		
<b>Discounted cash flow calculation</b>			
Year	Tax credit	Discount factor	Present value
1	\$337,500	1.0000	\$337,500
2	\$337,500	0.9524	\$321,429

3	\$337,500	0.9070	\$306,122
4	\$337,500	0.8638	\$291,545
5	\$337,500	0.8227	\$277,662
6	\$337,500	0.7835	\$264,440
7	\$337,500	0.7462	\$251,848
8	\$337,500	0.7107	\$239,855
9	\$337,500	0.6768	\$228,433
10	\$337,500	0.6446	\$217,556

**Present value**

Total LIHTC	\$3,375,000
Present value LIHTC	\$2,736,390
Direct public cost	\$638,610

Source: Example adapted from U.S Department of Housing and Urban Development (2020: 29-30) and Schwartz (2021: 123). Discounted cash flow calculations are by the author.

**LIHTC and broader policy concerns**

Despite clear potential benefits, the LIHTC is not undisputed and criticism remains, especially regarding the role of LIHTC housing as a public-private good (Fraser *et al.*, 2012; Yale and Freeman, 2012).

First of all, a major LIHTC challenge is that the tax subsidy itself is usually not enough to render projects viable. In 1996, a study showed that around 40 percent of projects needed additional gap funding, amounting on average 16 percent of development costs (Cummings and DiPascale, 1999). Over the years, this number has declined, yet bridge loans from public or private sector remain crucial to cover funding gaps (Stearns, 1988; Reid *et al.*, 2020). Especially when investors leave at year fifteen (Deng, 2020), LIHTC projects require additional tax credits and public grants so that not-for-profit actors can preserve them (Khadduri *et al.*, 2012). Leakage costs to syndicators and investors are another factor of cost inefficacy (Washington State Finance Commission, 2019). Although LIHTC has become more efficient in recent years, it remains common that a percentage of tax credits is spent on syndicator and development fees (Morton, 2011; Davenport, 2019). This resonates with the program’s oldest critique that the complexity of LIHTC facilitates an industry of experts when direct capital grants could be less costly and more effective (Stegman, 1991). Indeed, the application process is tedious, and a considerable fraction of the budget is spent on administration and monitoring (Ibid).

A second concern surrounding the LIHTC program is that tax-incentivized housing production not always services the poorest households (O'Regan and Horn, 2013).<sup>x</sup> Although the U.S. Department of Housing and Urban Development (2020) reports that around 40% of all LIHTC households make 30% of AMI or below, many tenants in for-profit projects record higher incomes averaging 60% of AMI (Mittereder, 2013). Besides that, LIHTC units are often constructed in already disadvantaged neighborhoods where cheaper land is available so that tax returns and development costs are optimized (Galster, 2013; Ellen *et al.*, 2016; but see Stein, 2018). However, these are also the areas where demand for affordable housing is not always the highest, and where vacancy rates are comparatively high. Therefore, some evidence suggests that LIHTC reinforces the concentration of (racial) inequality in low-income neighborhoods (Goetz, 2015; Massey & Rugh, 2017; see also Fields and Raymond, 2021). Nevertheless, there is also contrary evidence that LIHTC lifts general living standards by bringing higher-income tenants to low-income neighborhoods where increased local consumption benefits the community (Horn and O'Regan, 2011; Ellen *et al.*, 2016).<sup>xi</sup>

On the ground, it remains a question what happens to rental units when the compliance period of LIHTC ends. As said before, the federal government initially required affordable rent restrictions for the first fifteen years (Schwartz, 2021: 133). However, in 1989 and 1990, Congress passed two measures designed to extend the rent restrictions for another fifteen years (HUD, 2020). As for that, premature conversion to market-rate happens only rarely.<sup>xii</sup> Even at year 30, a majority of LIHTC units is not immediately converted to higher income occupancy (Khadduri *et al.*, 2012). However, inasmuch as this is a deliberate part of housing policy, it is also the contingent outcome of unforeseen events. In fact, many LIHTC investments are concentrated in areas where gentrification pressures never loomed or where rents of LHITC projects are already at market-rate level when affordability requirements expire (Ibid).

The key struggle, then, is not so much to preserve affordability, but rather to keep LIHTC property in a good shape and not deteriorating (Khadduri *et al.*, 2012). In 1990, Congress granted qualified not-for-profit groups, tenant organizations and public agencies the right to first refusal to acquire LIHTC units below-market prices (Schwartz, 2021: 133). As for that, strong non-profit commitment can help preserving affordable housing units during their second lifecycle. However, many not-for-profit groups can only take ownership when they receive additional tax credits or other public subsidies (Scally *et al.*, 2018). Furthermore, in weaker housing markets with less local



support, many properties remain under-invested due to lack of demand or resources (Dewar *et al.*, 2020). This factor is reinforced by the fact that capital reserves of older LIHTC projects are usually tightly budgeted, making it difficult to prolong their lifecycle in strict financial terms.

From a broader political economy perspective, the use of tax credits also raises concerns about democratic accountability (Tapp, 2019; Tapp and Kay, 2019). Due to the Community Reinvestment Act (Havard, 2017), LIHTC has become a key tax expenditure with American banks and corporations deducting somewhere between \$36.8 and \$40.5 billion dollar in tax credits from their taxable income (Sammartino and Toder, 2020; see also Table 4).<sup>xiii</sup> However, considering that many American corporations evade their federal taxes by going offshore and reducing tax liability (Saez and Zucman, 2019), the supposed redistributive mechanisms of LIHTC are not always undisputed. Ironically, larger corporations which already pay little on taxes pay even less by buying tax credits and investing in syndicated investment funds (Havard, 2017). However, should these corporations have paid their fair share of taxes in the first place (Clausing *et al.*, 2021), public housing projects could have been funded by the State itself.

Finally, it is important to emphasize that demand for tax credits changes over time. For example, when President Trump introduced the Tax Cuts and Jobs Act of 2017, the value of tax credits fell as lower taxable income made tax credits less valuable (Schwartz, 2021: 124). Therefore, when corporate taxes or income are lower, demand for tax credits is lower too. To some extent, the Community Reinvestment Act corrects for this causal effect (Havard, 2017). Nevertheless, the global financial crisis and President Trump’s tax reforms show that demand for tax credits can be volatile. This is all the truer in buoyant markets where investor appetite is constantly changing and where corporations are looking for more profitable investment alternatives.

Table 4: Largest tax expenditures of U.S. corporations (2021, in billion USD).

Tax Expenditure	JCT		OMB	
	Rank	Amount	Rank	Amount
Reduced tax rate on controlled foreign corporations	1	309.2	3	158.8
Accelerated depreciation of equipment	2	253.2	1	261.6
20% deduction qualified business income	3	225.8	2	236.8

Deduction foreign-derived intangible income	4	85.1	6	36.1
Research & development	5	49.4	4	66.4
Expensing depreciable property	6	46.0	-	9.6
<b>Low-income housing tax credits</b>	<b>7</b>	<b>40.5</b>	<b>5</b>	<b>36.8</b>
Tax credits renewable energy	8	20.6	10	13.8
Cash accounting other than agriculture	9	16.0	-	N/A
Net Operating Losses carryback	10	13.1	-	N/A
Passive loss exemption for \$25k of rental loss	-	N/A	7	26.3
Energy Investment Credit	-	10.7	8	19.3
Accelerated depreciation rental housing	-	9.1	9	15.2

*Source:* Adapted from Tax Policy Center: Urban Institute & Brookings Institution (2021). Original estimations by Joint Committee on Taxation (JCT) and Office of Management and Budget (OMB).

### **International divergence from the U.S. model?**

What then can be learned from the LIHTC example? And how does the experience with tax credits in the United States inform tax-incentivized housing production elsewhere?

First of all, it must be mentioned that many striking similarities can be observed between LIHTC and tax-based housing schemes in other countries (OECD, 2022). Despite a net increase in affordable housing production, scholarship in Australia and France criticizes the ‘National Rental Affordability Scheme’ and ‘rental investment’ schemes for their supposed cost inefficacy, struggle to preserve long-term housing affordability and locational tendency to encourage developments in areas where affordable housing needs are not the highest but where tax returns can be optimized (Scellier & Le Bouillonec, 2008; Trouillard, 2014; Rowley *et al.*, 2016). Similar flaws and setbacks are also reported in the more recent examples of Colombia, Germany and Portugal where private investment and tax subsidy is still in its infancy (OECD, 2022). In fact, after realizing that tax incentives were not the ‘holy grail’ of housing (cf. Blessing and Gilmour, 2011), the government of Chile introduced in 2014 and 2016 two public grant programs to complement its tax-based ‘VAT Credit for Housing Construction’ from 1975 (OECD, 2022). This resonates with calls in the United States to introduce public housing programs in addition to the LIHTC system.

Despite these common mechanisms and affordability outcomes, some major differences can be mentioned too (OECD, 2022). In the previous section we saw that the long-term sustainability of LIHTC homes is not always safeguarded due to a combination of policy factors (Khadduri *et al.*, 2012). Nonetheless, LIHTC units must remain affordable for another fifteen years when corporate investors leave at year fifteen (Scally *et al.*, 2018). However, with exception of Portugal where rental homes must remain affordable for 25 years (Travassos *et al.*, 2020), such affordability guidelines are less strict in the other countries implementing tax subsidy to private actors (OECD, 2022). In France and Australia, tax-subsidized investments can already be liberalized after nine and ten years (Rowley *et al.*, 2016; Bigorgne and Le Corre, 2021). In countries like Chile, Colombia and Germany, there are no official guidelines regarding the duration of affordable rents (OECD, 2022). Rents or home prices are simply capped at predetermined levels and kept ‘floating’ within the respective national and local rent regulation systems (Ibid). However, in many cases, such rents can increase incrementally or along with market-rates, and sometimes even at an accelerated rate when rent-increasing renovations are applied (cf. Wijburg *et al.*, 2018; see also Gustaffson, 2021).

Another difference relates to income restrictions. Even though LIHTC units are not always build for the poorest households, rents are set at a maximum of 30 percent of on average 60 percent of AMI.<sup>xiv</sup> Of all the other countries, only Portugal has a similar income-based requirement with affordable rents set at 15 to 35 percent of gross income (Santos and Ribeiro, 2021).<sup>xv</sup> Yet in France the rents of tax incentivized-housing are based on predetermined square meter prices, making higher income tenants benefit more from ‘affordable’ rents than lower income (Scellier & Le Bouillonec, 2008). In Australia, the rents of the discontinued NRAS are even set at 80 percent of market rate. However, in highly dynamic markets such as the ones in Sydney, Brisbane and Melbourne (Ryan-Collins and Murray, 2021; Nethercote, 2020), 80 percent of today’s market rate may be market rate of last year. In the examples of Chile, Colombia and Germany the rents or market prices are based on building costs (OECD, 2022). Such market-based calculations are somewhat arbitrary too (Ibid). Besides, rents are still high when compared to what affordable rents were under the post-war settlements (Harloe, 1995).

Finally, it must be emphasized that the Community Reinvestment Act guarantees at least a minimum amount of LIHTC investment by requiring American corporations to reinvest in communities (Havard, 2017). However, in countries like Australia or France, no such institutional

commitments exist as demand for fiscal subsidy is mainly left to ‘market forces’ (Blessing and Gilmour, 2011; Trouillard, 2014). In Chile, Colombia and Germany tax benefits are offered primarily to property developers, yet also in a somewhat non-committal, ad hoc way. This is not only problematic because the LIHTC experience already shows that demand for tax incentives can be volatile when corporate taxes or income are low (Schwartz, 2021: 124). It is also problematic because actual private investment may not always match the amount of investment that is publicly needed (cf. Tang *et al.*, 2017).

Based on this informal juxtaposition, we can thus conclude that the global emergence of tax-incentivized housing production does not necessarily result in a straightforward implementation of LIHTC-like futures. After all, the mentioned examples (with a lesser extent to France, Portugal and Australia’s discontinued NRAS) reflect more ad hoc responses to affordable housing needs with more open-ended affordability outcomes and potential to liberalize rents and tenures after fewer years than the LIHTC program. This is also because private investment and tax subsidy are sometimes applied in conjunction with traditional social rented housing programs.

This brings us to the key observation of this policy review. Whereas tax subsidy in the United States is really targeted at relatively secure tenure for lower-income households, in other countries it is introduced on a more ad hoc basis. In some cases, tax-subsidized private investment complements traditional ‘aid to bricks and mortar’ (Harloe, 1995). Yet in the greater scheme of things, it contributes to the emergence of alternative welfare systems with more flexible tenure and higher ‘affordable’ rents. In that capacity, it not only encourages corporate investors and developers to build tax-subsidized affordable housing units (see Table 5 for an overview). It also responds to a changing global housing landscape where declining access to home ownership, residualization of the social rented housing stock and the resurgence of private rental markets have triggered demand for more affordable – and often ‘intermediate’ – tenures (Haffner and Hulse, 2020; Hochstenbach and Ronald, 2020).

In conclusion, it can be said that tax-incentivized housing production does not necessarily result in the most effective and affordable housing outcomes. However, should such policy be implemented, two major recommendations can nonetheless be advised. First, the American experience with LIHTC demonstrates the importance of introducing clear requirements regarding tenure, rent and private investment. After all, if it wasn’t for tax reforms in the 1980s, depreciation allowances in the United States would still be used for all income segments of rental housing

(Schwartz, 2021: 109), and not for lower income only. In other words, without such regulatory amendments, tax-subsidized affordable housing units would eventually end up in the resurging private rental market where rent restrictions can be lifted and where tax subsidy can be capitalized (Aalbers *et al.*, 2020; Hochstenbach and Ronald, 2020; Bigorgne and Le Corre, 2021).

Second, it can be advised that tax-incentivized private investment should never fully replace direct public housing grants. Even in the United States, a major critique of the LIHTC program is that – in the absence of greater public commitments – tax incentives are too small to ‘both increase the supply of affordable housing and preserve the affordable housing that already exists’ (Schwartz, 2021: 138). In some European contexts like the French, the viability of public housing programs can offset these market risks (Vergriete, 2013). However, in those countries characterized by decreased direct public spending, fiscal instruments only respond to the ‘global urban housing affordability crisis’ in an imperfect way (Wetzstein, 2017). Inasmuch as tax-subsidized private investment boosts housing production, it also supports intermediate tenure in areas where affordability needs are not always the highest. Therefore, public housing programs remain necessary to secure essential welfare in those areas (and for those income groups) where tax schemes are not working.

Table 6. Different types of housing assistance.

Type of housing assistance	Allocation	Instrument	Receivers of subsidy	Payments	Income group	Tenure security	Public objective	Imperative
<b>Direct housing subsidy</b>	Supply-side	Aid to bricks and mortar: grants and loans	Social housing providers and developers	Upfront, larger lump sums	Lower income	Secure	Building large-scale housing estates and public housing	Housing as a right and social necessity
<b>Indirect housing subsidy</b>	Demand-side	Housing vouchers and subsidy to tenants	Tenants and private landlords charging rent	Ongoing, but smaller payments	Tendency to service the higher end of lower	Market-dependent	Moving low-income tenants into the private sector	Housing as a public-private good

					income groups			
<b>Tax-incentivized housing subsidy</b>	Supply-side	Tax credits, incentives and other fiscal allowances	Developers and investors	Missed tax revenue: fiscal subsidy is deducted from tax liability	Tendency to service the higher end of lower income and middle-income groups	Market-dependent, on affordability and tenure requirements	Facilitating private investment and affordable housing production	Housing as a public-private good

Source: Based by the author on the Western European example.

**Concluding remarks**

Private investment and tax subsidy are emerging outside the affordable housing market of the United States. Nevertheless, the low-income housing tax credit (LIHTC) program remains a key reference in international scholarship due to its relatively long history and policy track record (Sally *et al.*, 2018). For that reason, this review presented an informal assessment of LIHTC to foreground the common but divergent outcomes of tax-incentivized housing production in a broader world context (Holmans *et al.*, 2002; Rowley *et al.*, 2016: 59-63). Along the way, it also contributed to an understanding of the changing global housing landscape where declining housing affordability has forced an increasing number of national governments to adopt new policy instruments (OECD, 2022).

One major finding was that the general policy outcomes of tax-incentivized housing production are quite similar across national territories (cf. OECD, 2022). This is of course not very surprising. After all, fiscal instruments are used to encourage private investment and require public concessions to affordability, tenure, locational strategy and cost allocation (Tapp, 2019; Tapp and Kay, 2019; Wijburg, 2021). However, the fact that underlying motivations and priorities of fiscal housing policy can nonetheless differ across time and space deserves more research attention. In

the United States, LIHTC is mainly targeted at relatively durable lower-income housing provided by corporate investors complying with Community Reinvestment Act requirements (Amstadt, 2017). Yet in the national examples of Australia, Chile, Colombia, France, Germany and Portugal, we can see looser fiscal housing schemes emerging where (i) affordability periods are shorter than in the United States, (ii) rents are more hybrid and market-oriented, and (iii) investors and developers contribute to affordable housing on a more ad hoc basis.

The emerging flexible approach can be interpreted as another commercializing pressure on the increasingly privatized quasi-public housing sector (Jacobs and Manzi, 2017). However, ad hoc housing responses must also be associated with the growing need for ‘intermediate’ tenures between the residualized social housing segment and the resurging private rental market (Hochstenbach and Ronald, 2020). Indeed, alternative welfare systems are in the making where rents and tenure are ‘shifting up on the income ladder’ (Haffner and Hulse, 2020: 14) and rent controls expire whenever underlying tax schemes expire. These systems respond to new housing needs but also encourage private investors to provide affordable living forms in exchange for rental income streams, tax subsidy and future capital gains (Wijburg and Waldron, 2020).

For better or for worse, a valuable lesson learned from the LIHTC experience is the importance of clear regulations regarding investment, affordable rents and tenure. After all, depreciation allowances in the United States were originally used for all segments of rental housing, and not exclusively for lower income (Schwartz, 2021: 109), leading affluent families and private investors to leverage excessive real estate gains. Furthermore, the original compliance period of LIHTC units was fifteen years, and not thirty after Congress passed legislations in 1990 (Ibid: 133). Even so, it is unclear whether such tenure-protecting amendments will also be introduced in mentioned non-American contexts. For the time being, emerging private investment and tax subsidy are specifically targeted at providing more ad hoc forms of ‘affordable’ housing tenure (OECD, 2022). However, it is not inconceivable that many countries will progressively introduce stronger rent controls to incorporate tax subsidy and private investment into a broader public housing system (Harloe, 1995). To attain such a system, a major point of attention should be to redefine the blurring boundaries between ‘traditional’ social housing and subsidized but ‘affordable’ housing (cf. Preece *et al.*, 2020).

Finally, the review concludes that conceptual analysis of tax-incentivized housing production would also benefit comparative housing studies (Aalbers, 2022). On the one hand, there

is a growing need to understand the long-term impacts of tax subsidy on the public budgets of different nations (Goering and Whitehead, 2017). A useful starting point here is an Australian study by Lawson *et al.* (2018) where it is emphasized that direct public grants remain more cost-efficient than tax subsidy and private investment. On the other hand, more attention should go to the myriad ways in which tax-based housing schemes transfer to countries without a market-based tradition. In China, for example, following decades of rapid urbanization and declining housing affordability (Aveline-Dubach, 2020; Wu *et al.*, 2020), many scholars call for fiscal incentives to encourage and liberalize affordable housing production (Li *et al.*, 2021; Yan *et al.*, 2021). Likewise, national governments in South America and Africa increasingly consider tax policy to improve affordable living conditions (Brendenoord *et al.*, 2014; Molina *et al.*, 2019). Such comparative studies would not only contribute to an understanding of the variegation of tax-incentivized housing policy in the Global North and Global South. They would also help defining the future of 21<sup>st</sup> century housing welfare, and how its underlying priorities and motivations are construed differently across time and space.

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## Endnotes

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<sup>i</sup> The deductible amount is limited to 225 UF per housing unit (9,166 USD). The dwelling value shall not exceed 2,000 UF (80,191 USD).

<sup>ii</sup> In the Greater Paris region and French overseas territories deductions can go up to respectively 21 and 29 percent.

<sup>iii</sup> Investors can already sell before year 15. However, the property must remain subject to its original affordability requirements.

<sup>iv</sup> According to the U.S. Department of Housing and Urban Development (2020: 29), 9% tax credits cover between 50% to 90% of eligible development costs. 4% tax credits cover between 20% and 40% (Ibid).

<sup>v</sup> The 4% credit becomes automatically available if property also receives tax-exempt bond financing.

<sup>vi</sup> Until 2018, different income requirements existed. Either a minimum of 20 percent of the units had to be occupied by households whose income was at or below 50 percent of area median gross income (AMI), or a minimum of 40 percent of the units had to be occupied by households with an income of 60 percent (AMI) or less (O'Regan and Horn, 2013: 602).

<sup>vii</sup> Nonetheless, it is a trend that some investors challenge the rights of nonprofit partners to buy expiring LIHTC property (right of first refusal). The Washington State Housing Finance Commission (2019: 1) reports how such investors 'often use burdensome tactics that take advantage of legal ambiguities, resource disparities, and economies of scale to overwhelm their nonprofit counterparties.' In other words, they seek to retain ownership or sell the property at market price.

<sup>viii</sup> These financial modeling examples are based on key assumptions provided by the HUD (2020: 55). Declining revenue should be attributed to the fact that income (+1%) is projected to grow slower than operational expenses (+2%). A relatively high rent loss (7% of gross rental income) corrects for tenant mobility common in social rented housing. Of course, good housing management can lower rent loss and operational expenses and improve overall operational income. Debts, however, are the largest expense and make the difference between a positive business case (model 1) and a negative one (model 2).

<sup>ix</sup> Tax incentives cost the government money too (see Table 6). Because developers or investors can reduce their tax liability, the government is missing tax revenue. However, in the short to medium run, direct public housing expenditure can be lowered.

<sup>x</sup> Historically, the LIHTC program was meant to build homes for lower-income households that could still pay a (subsidized) rent. However, to house the poorest of households, housing vouchers are distributed (Downs, 1988). All of this compensates for the dismantling of public housing estates which were originally introduced by President Roosevelt (Goetz, 2015).

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<sup>xi</sup> Concerns about housing, equity and race are also relevant in higher-income neighborhoods. From a pro forma perspective, LIHTC developments are not always viable in areas where income and land prices are higher. However, that is not the only reason why LIHTC developments spatially cluster in already disadvantaged neighborhoods. Local resistance (“Not in my Backyard”) sometimes obstructs the development of affordable housing in less dense, higher-income areas (Scally and Tighe, 2015; see also Teresa, 2022).

<sup>xii</sup> If LIHTC property is sold prematurely, it can only be done when owner and state housing finance agency fail to find a buyer willing to pay the required price of a so-called ‘qualified contract.’

<sup>xiii</sup> At the domestic level, accelerated depreciation and research & development (R&D) are two other examples of key corporate tax expenditures (See Table 5). In theory, both expenditures help to boost economic growth and create new jobs as firms become more efficient and competitive. However, in an accounting world of corporate financialization (Klinge *et al.*, 2021), such a market-efficient logic is sometimes turned upside down. What otherwise would have counted as profit is now debited as an expense and ‘reinvested’ in the company. That way, less taxes need to be paid and corporations can bypass tax obligations.

<sup>xiv</sup> In some cases, this income-based calculation sets rents already above the market rate.

<sup>xv</sup> In Lisbon, the local government allows investors to apply a 70-30 scheme where 70 percent of total units are rented out at ‘affordable’ rate and 30 percent at market-rate.