Chapter Six

Metropolitan Growth and Shaping Future Housing Policies

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Metropolitan Matters

Housing issues and policies are often discussed at national scales although both market processes cohere, and policy autonomies are located, 'locally' (Brenner, 2004; Maclennan and O'Sullivan, 2013). This chapter focusses upon economic change, housing outcomes and policies in major metropolitan areas in Australia, Britain and Canada (ABC). A metropolitan focus is adopted because important housing market policies and adjustment processes, as suggested by travel to work and residential mobility research, function at metropolitan scales. There is also a growing awareness that agglomeration economies and greater global connections may give distinctive characteristics to metropolitan growth processes. The geographies of housing market areas rarely mesh with those of political jurisdictions and as policy has increasingly relied on market signals and solutions to achieve housing policy outcomes there is a growing discussion that strategic metropolitan authorities might be the locus of future autonomies in housing policies. Further, in nations, such as the ABC, where a small number of large cities drive total national system change, important differences in market pressures and outcomes between high growth cities and other places are masked by national averages. Researchers may then fail to reveal the key processes operating and governments may inappropriately pursue regionally undifferentiated policy responses. Finally, there is an emerging view that housing outcomes in these pressured places drive national pictures, not just statistically, but in housing processes, expectations and policy responses.

This chapter, in Section 2, discusses the growth of metropolitan areas and the roles of 'agglomeration economies' and globalisation (Glaeser, 2010; McCann, 2013). Most economic models of housing markets would predict that the 'core' housing market responses to demand increases would include changes in supply, prices and affordability and they are outlined in Section 3. and key 'stylised facts' identified. The housing system is a complex sub-system, producing and allocating housing with multiple attributes and, in consequence, these core, or first-round', impacts may promote a range of 'second-round' adjustments of producer and consumer behaviours, such as changing locations of search and delaying household or family formation, that go well beyond simple housing price-quantity adjustments. Ways of framing these 'second round' consequences of housing choices, that may catalyse recursive effects and make emergence and evolution of the housing market as likely as equilibrium (Glaeser and Gottlieb, 2009), are outlined in Section 4 and applied to the recent experiences of pressured metropolitan housing markets. Section 5 then illustrates how housing system 'outputs' may reduce growth gains and productivity 'outcomes'.

The ways in which the real housing economics of metropolitan markets require changes in the framing of economic policy decisions, the structures of governance and the instruments of housing policies are briefly discussed in the concluding part, Section 6.

From Core City Decline to Wider Metropolitan Growth

From Decline to Growth

Until this millennium, urban economic policies in the OECD were primarily concerned with the decline of 'inner cities', including Melbourne, Sydney, Toronto and London. Housing quality and property values were widely recognised as reinforcing factors in city economic difficulties (HMSO, 1977; Robson, *et al.*, 2000; OECD, 2006). Finance ministries widely regarded financing policies for cities as redistribution that displaced 'productive economic' investment. In the ABC countries, as in most OECD economies, the long boom disproportionately created growth in employment and incomes in metropolitan areas and revitalised city cores so that the emphasis on 'inner-city' withered (Advisory Committee on Cities and Communities, 2008; Parkinson et al, 2006)[1] . Managing metropolitan growth had become the key urban policy challenge in the advanced economies. That emphasis is likely to continue as it is widely expected that future growth will be predominantly within existing metropolitan regions (see Henry, 2009). Economic policies for cities are increasingly aimed at facilitating growth – e.g. City Deals in the UK and Australia, albeit with an emerging emphasis on 'inclusive growth' (see Waite, *et al.*, 2018), although this changed perspective is rarely applied to constructing growth-facilitating housing policies (Maclennan, *et al.*, 2018).

A small number of large metropolitan areas now comprise substantial 'meso' segments of the three (ABC) national economies considered here; Sydney, London and Toronto contribute a quarter of their nation's growth, and in the ABC nations the three largest metropolitan areas produce 50 to 60pc of GDP (SGS, 2017: Conference Board of Canada, 2016, Centre for Cities, 2017). In these economies, metropolitan outcomes, that reflect the interaction of local economic systems with regional, national and global supply and demand influences, are therefore crucial to overall national performance.

[1] Though poverty concentrations were also growing in other parts of metropolitan areas in most countries, for the UK, Australia and Canada, see, respectively, Bailey and Minton (2017), Pawson (2017), Hulchanski (2011)

In designing economic policies for housing, the typical divide between meso and macro-perspectives fails to grasp the modern spatial realities of how these different system levels function and interact. Not one of the national ABC governments, for example, has any macro-to metropolitan economy modelling framework and hence no formal modelling of how these major metropolitan housing markets is driven by, or may drive, change in the national economy Clearly, the locally fixed factors in metropolitan production, such as infrastructure and housing systems, receive relatively little attention in 'macro-modelling' and national productivity debates and their economic roles may be under-valued in policy decisions (Maclennan, *et al.*, 2018). This clear gap in policy thinking mirrors a longstanding focus of urban and regional economic models on the roles of labour, skills, capital and innovation in driving regional economic performance. That emphasis may have been appropriate but metropolitan growth makes the understanding of how 'locally fixed' systems are impacted by, and recursively shape, change important. Once change ensues then drivers and reinforces may be difficult to disentangle.

Rediscovering Agglomeration Economies

Cities are always key points of connectivity for consumers and producers in economies but there are new emphases in the understanding of the drivers of metropolitan growth and productivity. Growing globalisation of product, labour and finance markets reinforces the reach and roles of connection (McCann, 2016). However, it is the important work of Glaeser (2008) and Glaeser and Gottlieb (2009) in rehabilitating earlier ideas on 'agglomeration economies' (Marshall, 1890), that has persuaded economic policy-makers of the distinctive, positive productivity possibilities arising in larger cities. These agglomeration economies arise due to both the increasing scale and density of employment and/or residential land uses in cities (see Puga, 2010). Large cities with 'thick' labour markets attract and integrate high quality and other kinds of labour supply more efficiently than smaller places. Larger cities facilitate the networking, clustering and face to face contacts that are required to create trust that is key to innovation and flexibility in fast changing economies and they foster effective sharing of scarce facilities. Growth in key parts of modern economic bases include fast innovation in information technology and financial services. These sectors are concentrated in and grow faster in metropolitan areas and appear to thrive on agglomeration economies. Technological and financial innovation in London, Sydney and Toronto are clear examples of such effects (SGS, 2013). There is evidence emerging over the last decade that cities now produce shares of national economic output that exceed their population shares and that urban size and density enhance productivity (Ciccone and Hall, 1996; Rosenthal and Strange, 2004; Puga, 2010; Abel et al, 2010; Mare and Graham 2013; Melo et al, 2013; Ahrend 2015).

Metropolitan density and spatial forms, that are extensively shaped by housing market decisions, are now recognised as significant economic growth policy issues (OECD, 2006; McCann, 2013). These ideas have been applied in the selection of metropolitan transport infrastructure investments, for instance by including estimates of how productivity-raising labour market densities can be increased by reducing travel times and costs. They have not been deployed to assess impacts of residential investment as economic infrastructure.

Several studies (McCann, 2013; IPPR North, 2016; Cottineau, 2018) have suggested that agglomeration economies may not operate everywhere and always. They may be more potent in newly emerging economies and subject to threshold effects. There are also key notes of caution emerging (Maclennan, *et al.*, 2015) that the net benefits from earlier existing agglomeration economies may have been reduced by growth driven congestion costs, and this is a central concern in the emerging cases for active metropolitan housing market policies. Some research (IPPR North, 2016) suggests that uncritical use of agglomeration rhetoric in making policy support claims means that there are significantly more specific claims for the existence of agglomeration economies than there are solid, empirical research studies establishing their existence and extent.

Metropolitan Growth and Core Housing Outcomes

Complex Market Systems: Drivers and Reinforcers

Metropolitan growth has, potentially, major effects on local housing outcomes. Regional economics, aside from initial employment multiplier effects regional economics has traditionally had little to say, other than generalised statements about 'congestion costs' and 'cycles of disadvantage', about the longer term and recursive effects between housing and the economy at the regional scale and has not theorised the relationships. For instance, recent work on economic change in UK cities (Martin, *et al.*, 2014) largely ignores the sector. Housing economics has, until further work by Glaeser on GSE models (Glaeser and Gottlieb, 2009) focussed on first round price effects of growth rather than assess growth and productivity consequences.

This paper recognises that a connected suite of major, problematic housing outcomes has emerged within ABC metropolitan areas since the start of this millennium and these changes and their consequences are outlined in two stages, in this section and the next. The first part, in this section, focusses on reviewing demand drivers and supply responses, and the major 'first-round' effects on price and output outcomes. The second part, in Section 4, recognises that core market pressures induce a series of multiple, 'second-round' adjustments in the housing market, some that include spatial spillovers and others with recursive effects capable of triggering complex dynamics of adjustment.

Metropolitan Growth Experiences

There is diversity in the economic trajectories of metropolitan areas within a nation. There are shocks and sectoral effects that have more pronounced impacts in some metropolitan areas more than others. Some metropolitan areas are more connected to global flows of trade and talent. Within the ABC countries, for example, fluctuations in the price of oil have had significant effects on housing prices in the oil-oriented economies of Edmonton, Calgary, Aberdeen and Perth (Australia). However, there are more pervasive influences on growth that operate over wider ranges of cities and sectors, such as agglomeration economies. Gyourko, *et al.*, (2006) have explored 'superstar' cities in the USA that have sustained growth and house price uplift over prolonged periods and CMHC (2017) have highlighted that different real price growth in Canadian metropolitan areas reflects, in the main, differences in economic growth rates. In this chapter, to simplify the arguments, population change is taken as proxy for broader metropolitan growth.

The patterns observed in the ABC countries indicate that metropolitan areas have not only had faster rates of productivity growth (per worker) than national averages but that population, household and employment numbers have risen fastest in existing metropolitan areas. In Australia and Canada, the largest metropolitan areas have, with some exceptional periods, grown fastest and other metropolitan areas have grown faster than 'regional or rural areas. The Canadian figures show that, from 1997-2017, the high and consistent Canadian population growth rate exceeding 1pc per annum (in each of the five-year periods illustrated) was outpaced by growth rates in the larger metropolitan areas of Vancouver and Toronto (with Montreal lagging national growth rates) The largest three metropolitan areas increased their share of national population from 33pc to 35.6pc. Ottawa, Calgary and Edmonton, for different reasons, all incurred nationally high rates of expansion and after 2007 the smaller metropolitan areas, such as Halifax and Winnipeg had begun to grow faster than the (rising) national average.

Some similar patterns are apparent in Australian data (with overall growth population close to the Canadian rate). Sydney grew by 6.6pc between 2006-11 and at almost double that rate (12pc) from 2011-16. Melbourne grew even faster between 2011-16, at 13.2pc. Brisbane and Perth both had double digit growth in population in both periods and the slowest growing large city, Adelaide still managed to grow by 5.9 pc between 2006-11. These growth surges, in both countries, were generally associated with rising incomes and employment. The UK pattern of change is more complex, but London grew disproportionately in population, employment and productivity (Martin et al, 2014).

Stylised Fact 1

In the ABC countries economic growth in metropolitan areas drove significant, sustained increases in populations and households and those pressures appear to have increased after the GFC. Economic change has underpinned a significant increase in demand for metropolitan housing.

Growing metropolitan housing demands impact on local housing supply systems. There are several studies that estimate the price elasticity of the supply of housing for metropolitan areas in the United States (Green, Malpezzi and Mayo, 2005; Saiz, 2010; Glaeser, Gyourko and Saiz, 2008). They suggest that measured elasticities vary across metropolitan areas with some elastic but the majority not. For example, Green, *et al.* (2005) establish that stringent land use regulations in a metropolis are associated with lower elasticity but they also note that inelastic responses can also be found in localities with little regulation. Saiz (2010) stresses how the nature of the terrain in a locality, in addition to regulation, induces limited responses. Glaeser, Gyurko and Saiz (2008) make the important observations that metropolitan areas with low supply elasticities are more prone to price bubbles and that bubbles are less likely and shorter in duration in localities with responsive supply systems. There are good a priori grounds for assuming that such patterns and influences will prevail in other metropolitan systems though the extent and causality of inelasticity may vary from system to system and city to city. Though this literature identifies the potential house price effects of 'stringent' regulation it also does not rule out other causalities of low responses and indeed few studies test for regulatory effects simultaneously with, for example, infrastructure shortages, and construction sector shortages and these are important omissions in understanding inelasticity drivers.

None of the ABC countries have a similar, strong set of metropolitan studies. There are two significant studies for Sydney, Gitelman and Otto (2017) and Liu and Otto (2017). The later study, for 1991-2012, suggests that the price elasticity of housing supply in the municipal areas of metropolitan Sydney is low (well below unity), is lower for houses rather than flats, though for flats it exceeded unity in a third of municipalities, and fell after the start of the millennium. Localities with existing high housing densities (already filled-up) and slow planning processing times had lower elasticities. Higher, but still low elasticities have been estimated by McLaughlin (2016) for Adelaide. Metropolitan scale estimates in the Canada and the UK are notable for their absence but Kalhor (2014) estimates that elasticities for Canadian metropolitan areas are low, at 0.2, and that the construction sector is largely insensitive to house price changes. The academic literature that is available, and is broadly comparable, suggests that the price elasticity of supply of housing is very low in the short period and moderately low in the longer term. It also suggests that the supply of housing within existing cities and metropolitan areas (with much land already developed) is particularly inelastic.

Stylised Fact 2:

The supply of housing in metropolitan areas is inelastic and especially in the short term.

Taking the first two stylised facts together it can be reasonably be deduced that the rate of growth of housing demand in metropolitan areas in short to medium term periods, and often into the longer term, will exceed the housing supply response and that market pressures will be quickly more apparent in such localities. The key, but not the only, signal of pressure in any market is rising real market prices adjusted for changes in the quality of dwellings traded over time. There are a multitude of caveats regarding citing housing prices unadjusted for housing quality as there are many qualitative adjustments that consumers make, for instance moving to smaller, more remote homes, in pressured markets and price index studies often omit such considerations (as do many housing affordability indices).

The evidence across all three ABC countries is that where population and employment grew fastest housing prices and rents rose fastest too. Price change patterns in Australia saw the major, larger capital cities with price rises running ahead of smaller cities and regional-rural Australia. After, 2013-14, both Sydney and Melbourne (but particularly the former) saw annual price rises in the 10-15pc range until the end of 2017. The Canadian pattern is broadly similar, with Vancouver (and nearby Victoria) and Toronto outpacing metropolitan and national house price inflation rates from 2012-17. In the UK, London and surrounding cities, post the GFC, exceeded national house price inflation rates until 2018.

Stylised Fact 3.

House price inflation rates of major metropolitan areas have run ahead of other cities, towns and rural areas within their national systems for sustained periods. That divergence has slowed but not disappeared and there is a growing concern that major metropolitan areas may now, driven by greater impacts from globalisation, have partially 'de-linked' from national developments.

High house price growth in expanding metropolitan areas has produced historically high real house prices and inflation rates. Vancouver's successes as an attractor of households and jobs saw, in the decade to October 2016 rents in the city rise by 40pc, Eastside condos appreciate by 60pc and Eastside Townhouses by 70pc (and that patterns of owned houses outstripping flats and both outpacing rents has been typical of other metropolitan areas). In Sydney, the sequence of annual price appreciation rates in excess of 10pc per annum from 2013-17 illustrates both the scale and persistence of the problems. The sustained divergence from national averages raises major policy challenges not just for metropolitan governments but for national/Federal governments introducing policies to 'cool' or stabilize metropolitan housing markets housing markets.

Rising demands, sticky supply and consequent price pressures, are the core Stylised Facts of metropolitan housing change. They are also the predicted housing market outcomes that most economic models of housing markets would anticipate. For instance, in different ways the RBA in Australia (2017), CMHC (2018) in Canada and Maclennan and Chowdhury (2015) in the UK all, in different ways, demonstrate that real economic changes, and not simply speculation, drive these metropolitan-regional house price change patterns.

Rising prices are usually only the first phase of adjustment in a pressured housing market and supply shifts are not the only route to change. [2] The metropolitan areas in the Shaping Futures discussion also displayed increasing homelessness, growing queues for social housing and deepening difficulties in paying for housing for younger and middle income and middle-aged households. The generally growing housing affordability stresses experienced in this millennium in Australia, Britain and Canada, and their knock-on implications for economic stability, wealth, growth and productivity are the focus of concern here.

[2] Static or slowly falling house prices have been recorded in some of the major metropolitan markets in the ABC countries since mid-2018. This has raised concerns of further price falls and potential instabilities for wider financial systems (Globe and Mail, 14th January 2019) and it is widely accepted that housing market instabilities are detrimental to growth and productivity (Priemus and Maclennan, 2011). The chapter comments on these recent developments but it focusses on the growing, sustained divergence between housing prices in growing metropolitan regions and other regional settings that has been typical of the last two decades in the ABC and many other OECD countries (Katagiri, 2018; Alter, *et al.*, 2018). It is likely that upward price pressures will re-emerge in growing cities.

Housing System Effects over Sectors, Time and Space

Framing the Issues

Housing policy research and framing must both use key economic ideas and recognise the real complexities of metropolitan economic growth, the housing system and economic-housing system interactions. Economists, especially in North America, in the academic, financial and government sectors typically use conventional neoclassical microeconomic models to explore such issues. The General Spatial Equilibrium (GSE) model developed by Glaeser (Glaeser and Gottlieb, 2009) is often the 'go-to' model of government economists dealing with metropolitan housing issues in the ABC economies. These conventional reductionist descriptions of housing outcomes, market processes and economy-housing interactions are not adequate to many policy framing tasks.

Although the GSE model usefully links housing outcomes to growth, and vice versa, and has a 'systems' perspective we rejected it for framing policy issues for metropolitan housing markets. It is important to explain why. The model analyses the choices of firms, households and developers that are assumed to be fully-informed and rational, operating within a set of well-functioning metropolitan markets that are competitive, free from frictions and failures and that reach equilibrium outcomes through the 'self-regulating' effects of price, output and profit signals. There is also often an implicit assumption that markets adjust quickly and fully.

These assumptions do not necessarily have any basis in empirical evidence of how people behave and markets adjust, indeed the house price inflation experiences since 2010 of, for instance, Vancouver and Sydney suggest that disequilibrium may be prolonged and market adjustments may take place slowly. Rather than attaining a new equilibrium the consequences of disequilibrium may fashion emergent change and housing market evolution. We chose to use an applied focus on the economics of housing markets within a looser heuristic framework that allows for market failures, protracted disequilibrium and market evolution.

Recursive, Spillover and Dynamic Effects from Core Pressures

Pressures often work themselves down the quality/price ranges of the housing system and a recurrent feature that shortages driven by growth in middle-income demands may impact low-income renting submarkets. In this section some of the system-wide effects of shortages are examined and there is a well-defined suite of issues that arise for pressured metropolitan areas.

Three Stylised Facts, that taken together comprise the traditional 'merit good' case for housing policies, were established.

Stylised Fact 4:

> Homelessness has increased significantly in all three countries, and especially in major metropolitan areas after 2008.

This has a major impact on the productive economic capabilities and participation of the poorest individuals and households[3] (Von Scheel 2017; Fitzpatrick, *et al.*, 2018; Pawson, *et al.*, 2018) as well as augmenting net cost to government (Parsell, *et al.*, 2017). The inherently regressive outcomes may also create new sets of market failures and policy disconnects e.g. homeless individuals face difficulties in participating in labour and credit markets with 'no permanent address'.

Stylised Fact 5:

> Lengthening Social Housing Queues have become the metropolitan norm as stocks of non-market housing, or private stock within the reach of low income subsidy levels, have been falling or failing to keep pace with rising populations with accepted housing needs (Stephens, *et al.*, 2018; Pawson, *et al.*, 2018).

As social housing has become more precisely targeted at lower income households such reductions in entry probabilities, meaning waiting times now typically average 10-20 years, are usually regressive in impact and they may also add to market instabilities as more marginal households have to face market prices for homes.

[3] Key references, homelessness since 2000

Stylised Fact 6:

Burdens of paying for rental housing have markedly increased for those at the lower end of the income scale (Stephens, *et al.*, 2018; Pawson, *et al.*, 2018), reducing residual incomes for poorer households[4]. These adverse outcomes are worse when affordability calculations include the additional costs of transport that households have to meet as they are forced further away from jobs as housing pressures grow.

The rent to income ratio for the lowest income decile of Australians (Australian Bureau of Statistics, 2017) has risen the most over the last two decades, from 33pc to 43pc. Similar shifts have occurred in Canada and the UK and they are more pronounced in metropolitan areas. These changes have been largely regressive and reduced consumption of non-housing items.

Stylised Fact 7:

There are rising problems of entering home ownership: they arise from increases in the non-housing debt burdens of younger households, often associated with paying for post-school education in the UK and Canada, the growing deposits required for house purchase, as well as the cost of repaying larger mortgages, despite a long period of historically low mortgage rates (Maclennan and Graham, 2017).

The period, especially since the GFC, has been marked by historically low mortgage rates and a low user cost of housing capital (Stephens, *et al.*, 2018: RBA, 2017; Bank of Canada, 2017); however rises in the prices of homes typically used as entry routes to home-ownership relative to household incomes have led to a sharp rise in loan-to-value and loan-to-income ratios for First-Time-Buyers and especially in core metropolitan areas. (CMHC, 2018: Property Council of Australia, 2017b; Daley, *et al.*, 2018; Stephens, *et al.*, 2018).

Stylised Fact 8:

There has been a downward shift, in consequence of Stylised Facts 6 and 7, in the home-ownership rate of the specific age groups from 25 to 50, and a corresponding increase in the share of each of these age groups living in rental housing; Canadian changes have only become apparent since the middle of this decade but are moving in the same direction.

It is important to note that these tendencies pre-date the GFC and reflect longer term policy settings and their scale has been so significant that, despite the increased longevity of older age groups with high ownership rates, overall rates of home-ownership in the UK and Australia have been falling and Canada now appears to be following with emerging signs of similar processes as early-age ownership rates have been falling in the major pressured markets over the last five years. For 'partner' households the rising share is accompanied by two other widespread patterns. The process has been more pronounced within growing metropolitan areas than other areas and, for those who ultimately become home-owners, the duration of households in rental housing has risen from, typically, 2-3 in the 1990s to more than a decade. The 'priced-out' group reportedly grew significantly in all the metropolitan areas in this project.

Stylised Fact 9:

Gross debt to household income ratios in the ABC countries have risen, since 2010, to near record levels, primarily as a result of increased mortgage borrowing.

These high household gross debt to income ratios have raised concerns about the financial stability consequences of any future interest rate increases and house price falls. In both Australia and Canada, it is arguable that the only concrete housing market policy actions reacting to house price inflation by national governments have been financial measures to reduce the riskiness of mortgage borrowing by placing additional deposit requirements on first time buyers. The 'financial policy' communities within all three countries have also been swayed by recurrent IMF and the OECD warnings about 'speculative booms with high bust potential' and 'bubbles' in metropolitan housing markets with London, Sydney, Melbourne, Toronto and Vancouver all having attracted their attention. There have been wide claims of 'bubbles' in particular metropolitan markets.

[4] Burdens of paying for rental housing have risen, key references

Housing market stability is an important policy goal and it is perhaps unfortunate that the necessary closing of the stable door has waited until the inflationary horses are on a new high plateau. There are however some concerns about the ways in which the balance of policies has been chosen and the policy instruments used to seek stability. They focus unduly on gross housing debt and ignore the substantial , rising value of housing assets held by households and the extent to which these investments have been facilitated by family wealth transfers and require further reflection on how the growing debt taken to invest in buy-to-let homes (close to half of debt incurred in Australia between 2014-17) will be managed in cyclical downswings. Nor has there been open debate on what the effects of rationing households out of ownership now, say for a decade longer than before the millennium, are upon the life-course formation of households, families and asset holdings of younger people in the ABC. A search for family lifestyles within home-ownership may drive more households out of high-productivity, high-income but high housing cost localities to locations lying outside pressured metropolitan areas (we return to this issue below).

These points are more widely discussed in Maclennan and Graham (2017) and are summarised briefly here. Neither OECD, IMF nor national governments have undertaken any modelling of the whether price trends have reflected fundamentals or speculative trading in housing (see further below). Nor, in Australia and Canada is there any macro to metro level modelling of how new policy measures would impact different spatial housing markets. In particular, the Canadian evidence points to a set of smaller and slower growing areas that have household debt to income ratios at half of that of the three larger metropolitan areas, modest price appreciation rates prior to the policy actions and relatively small historic amplitudes to price downswings so that new restrictions seem both excessive and inappropriate outside of the major metropolitan areas. Monetary and financial policy instruments, introduced in isolation, are not effective policy tools in the context of regional and metropolitan divergences in housing prices. National actions that facilitate fuller, faster strategic supply side responses where they are needed, what might be labelled a housing market strategy, are what is require for more stable housing and economic growth. Financial policymakers need to inform and modernize their empirical understandings of the housing systems their last 30 years of policy settings have shaped.

The ratios perceived as problematic are markedly higher in growing metropolitan areas than in lagging cities and for the nation and the nature and efficacy of national policy responses on this topic are noted in the concluding section. However, empirical evidence for Canada and the UK suggest that metropolitan price changes reflect real economic growth patterns rather than unfounded speculation (CMHC, 2018)[5]. Although most metropolitan areas in all three countries saw booms slow or top out in 2017-18 there has, by the start of 2019, been no rapid house price unwinding with significant contagion effects into the wider economy.

National and international government agencies dealing with housing markets are most interested in housing markets in periods of booms and bubbles and busts, arguably the macroeconomic or metropolitan contexts where their conventional theoretical perspectives are least relevant (Maclennan and O'Sullivan, 2013), and when dynamic disequilibrium that others have labelled as 'irrational exuberance' (Shiller, 2009) or 'animal spirits' (Keynes, 1934) prevail. A key feature of housing markets is how households understand, expect and extract changing asset values in housing. Most obviously, when demands for housing ownership in a metropolitan area increase ahead of supply (the norm) in more than ephemeral fashion then rising house prices do not inevitably reduce the demand for housing in the next period. Rising prices may feed increased asset demands on the part of households so that prices and demand both rise. This is illustrated in the broad heuristic set out in Figure 1 and it is an important trigger mechanism to inducing wider system adjustments. Two further stylised facts of contemporary metropolitan housing markets flow from this price mechanism. Sustained high house prices gave a new importance to two significant processes

Stylised Fact 10:

For a decade, and longer in some metropolitan areas, the growing demand for market renting, occasioned both by static totals of non-market renting and reducing shares of new cohorts able to afford ownership options, induced a significant expansion of ownership of market rented property by individual investors, mainly already home-owners who had the equity to borrow low cost funds and could outbid first-time-buyers for properties flowing onto the market.

[5] Further, the personal debt to GDP figures that have driven 'central bank' concerns have invariably been gross borrowing figures so that if consumers borrow to purchase an asset, such as housing, appreciation in asset values is not netted off to generate an effective financial exposure measure

This process appears to have been most pronounced in growing metropolitan areas and it reinforced demands and price rises after price pressures had already been well established. Tax policies, particularly in Australia, may play roles in exaggerating these processes but it is the overall balance of the growth of housing supply and demand outcomes in metropolitan housing markets that have turned housing ownership from a savings/income -earning vehicle to become more a speculative venture.

Market rental housing across the ABC countries continues to be dominated by individual buy to let landlords. Once house prices are a relatively safe one-way bet, households with savings and retirement plans recognise that buying a house to let is a rational investment strategy: housing shortages drive up rental returns making letting easier and, at the same time, tax advantages of different kinds lower the user cost of capital to acquire an appreciating asset[6]. The combined asset uplift and rental income returns usually exceed returns on other available financial assets[7].This augmented demand for units to own-to-let raises competition for smaller properties and it is likely to be fiercest in what had been typical sub-markets for first-time homebuyers.

The development of Air BnB, which may be more of a 'speculating' than 'sharing' economy where it leads to letting by non-resident landlords, created a further flow of demands for rental properties in metropolitan markets. Half of UK private sector rents now accrue to baby-boomer home owners in the UK and Paul Johnson (IFS) notes that 1 in 6 households in the UK in their 50s and 60s now own multiple homes. In the major Canadian metropolitan markets, it is estimated that small landlordism has increased by at least 10 per cent since 2010. In all three countries, growth in private rental provision has been an important component of alleviating metropolitan housing shortages since the millennium but also played a role in metropolitan housing markets acquiring a new important dynamic demand for 'investment' properties.

Stylised Fact 11:

Rising demands for metropolitan properties, to own and to let, were largely driven by domestic demands, mortgage systems, tax arrangements and pension alternatives. Booms were essentially domestically driven. However, in a further reinforcing round of impacts the sustained price increases in major metropolitan economies then attracted interest from non-local and overseas investors so that domestic restraints in cyclical housing upswings (flows of mortgage funds, flows of potential buyers) no longer set limits to expansion.

The ability of capital to flow to housing uses across national boundaries has risen markedly in the last 30 years (Smith and Searle, 2010). When a metropolitan area in a deregulated financial system manifests sustained house price growth market lending is not limited by supplies of national housing finance nor indeed national originated demands. Globally 'visible' markets may then come to be regarded by more affluent households living in politically unstable (highly risky) countries as 'safe havens'.

In the UK, Canada and Australia, Chinese investors have been regarded as key sources of speculation in, for example, in London, Vancouver, Toronto, Sydney and Melbourne. The evidence on Canadian cities is that, since 2015-16, the rate of purchases by foreign buyers is usually less than 3 percent in metropolitan markets and has not been a major driver of house price increases (Matheson, 2018). However, there are some neighbourhoods-submarkets within the major metropolitan areas that in measurement periods displayed foreign purchase rates between 7 and 10 percent (RBC, 2017). Usually these have been central city neighbourhoods also disproportionately subject to Air BnB expansion (Crommelin, *et al.*, 2018) and impacted by growing numbers of overseas students studying in metropolitan universities. Policy action in this general area has sometimes preceded any real research into the patterns and impacts of foreign ownership. The empirical evidence suggests that foreign buyers pay much the same prices for equivalent dwellings as do other buyers. There is little evidence to support claims that these properties are often held vacant for solely speculative purposes and they are generally either being used as a principal residence, to house offspring studying in Canadian universities, as a source of rental income or as a second home. Similar remarks apply in the UK. The numbers involved in ownership simply for speculation appear to be a thin additional layer of demand in already pressured markets and the housing boom of the metropolitan areas of the ABCs was not made in Beijing. However, these tightened housing markets are now drawn into global flows of housing finance and demand in ways that further reinforce real house price increases and may reinforce the 'delinking' of these markets from their national settings (Stylised Fact 10).

[6] And they, unlike younger potential buyers, have the equity-deposit capacity to be able to borrow at historically low interest rates
[7] Increase in renting and buy to let

Stylised Fact 12:

Housing Wealth and its Consequences. Housing assets have come to form an increasing share of the net assets of households in the ABC countries and the pattern of increases has resulted in significantly higher wealth inequalities in all three countries, within generations (with renters and poorer households losing ground), between generations (with older households gaining, and two thirds of net UK housing wealth is held by the over 65s, relative to under 35s) and between places, with growing metropolitan areas experiencing the most rapid rises. The importance of housing related wealth gains since the mid-1990s, most of which are 'unearned' suggests that the major economic and fiscal policy settings have facilitated the growth of a 'rentier' economy, driven by the ownership of scarce assets, rather than innovation, investment and productivity gain. Housing market outcomes have, in all three countries, increased inequalities and, arguably, reduced productivity gains. (Maclennan and Miao, 2017).

Sustained metropolitan house price increases have meant that housing wealth is now the largest element of household wealth across the ABC countries, comprising around half of household wealth. Housing wealth impacts consumption and stability in the economy as housing equity release has tended to reinforce economic upswings and static or falling prices prolong recessions (recent Australian evidence is in Ong, *et al.*, 2017). Redistribution within generations, between and between places. The distribution of wealth in all three countries has been significantly impacted with owners gaining over renters, older households benefitting relatively to younger households and higher and middle-income wealth groups accumulating resources more rapidly than less wealthy households[8] . Inter and intra-generational differences in unearned housing wealth have become increasingly apparent in all three countries (Ronald, 2016; Resolution Foundation, 2018; Eslake, 2017; Maclennan and Graham, 2017).

Housing wealth now plays a supplementary role to income in driving housing choices. Older owners are now using their acquired wealth, even withdrawing their own housing wealth, to transfer chunks of equity to their children/grandchildren. In the UK, some 80 percent of first time buyers have a substantial tranche of equity provided by parents and is estimated that UK parents will supply £6bn of such loans/gifts in 2017. But what about large families? What about the daughters and sons of rental sector parents? There is evidence that these processes are now well entrenched in the UK and Australia but there is a dearth of relevant research in Canada.

The same factors have led older households, with rising societal longevity, to under-occupy large homes that many hold for gift and bequest motives rather than housing consumption. This reinforces the shortages of larger family housing in metropolitan areas noted in Stylised Fact 3. In Australia, for example, there are some 1 million owner occupied homes with three or more bedrooms more than resident needs; a number that has increased markedly over the past decade (Pawson, 2017) and a similar figure has been reported for London alone. In the absence of a 'house price index asset' to purchase, and the existence of management or transaction costs that discourage them owning separate properties to let and live in, the real set of consumption/investment choices for older households may be constrained and lead to an inefficient use of metropolitan housing stocks.

Stylised Fact 13:

Housing market pressures have reshaped the residential geographies of metropolitan areas over the last three decades with so that there has been a steady weakening of the association of low income households with the inner city and the more affluent with the outer suburbs.

[8] Wealth effects and patterns

Household and population numbers have been recovering in the cores of growing metropolitan areas and this has often involved not just new apartment construction but the gentrification, of older, poorer neighbourhoods proximate to city centres (Lees, 2016) and in some instances, the demolition of social housing, and its replacement by market sector properties (Pawson, 2016) have reinforced these effects. Growing volumes of non-profit land purchase have also shifted outwards (Pawson & Herath, 2015). In order to access cheaper housing with lower land costs, lower and middle-income home-owners have increasingly located on cheaper land at the edge suburbs of metropolitan areas (Hulchanski, 2011; Bailey and Minton, 2017). That shift inverts the distance from CBD-income patterns predicted in neoclassical economic models of residential structures (Muth, 1969)[9].

Stylised Fact 14:

There is growing evidence of increasing segregation of lower income households into poorer neighbourhoods[10].

Within all three countries low and high income neighbourhoods exist both in city cores and in the suburbs. Metropolitan housing an income processes have operated to concentrate larger proportions of rich and poor into neighbourhoods defined as rich and poor and this compromises the ability of metropolitan areas to attain goals for social cohesion and inclusion.

There is no claim here that the broad generalisations outlined above apply across all countries and all major metropolitan areas and, importantly, second-order cities will have different challenges but be buffeted by the processes and policies aimed at metropolitan areas. More detailed empirical assessment of outcomes across a wider set of growing cities is required. However, looking across the 'condensed' experiences outlined above, is there a prima facie case that the stylised facts characterise an equilibrating housing system? We concluded that they did not. Regardless of equilibrium, are housing markets working well to attain the key outcomes sought by governments of metropolitan areas?

Housing Affordability as a Productivity-Growth Problem

Housing, Productivity and the Stylised Facts

An overall evaluation of metropolitan outcomes requires a detailed account of how metropolitan housing outcomes impact environmental sustainability, not least as Australian and Canadian metropolitan areas top the global rankings for the 'dirtiest' development footprints, and a wider assessment of social outcomes, including cohesion, inclusion and income/wealth distribution. The discussion here is limited to how the economic outcomes of growth processes are impacted by housing outcomes. Piketty's (2014) work on capital in modern economies highlights that questions of wealth distribution are inevitably linked to issues of growth and productivity and the central role of housing assets in shifting wealth distributions (Maclennan and Miao, 2017) naturally leads to the relationships between metropolitan growth, housing and productivity. The Shaping Futures discussions highlighted that the productivity concern is not simply a theoretical question but has been voiced by business and housing sectors in all the metropolitan areas in the collaboration. Several studies in recent years have begun to explore this issue, not least research that grew out of the Shaping Futures collaboration. The evidence base is fragmented and incomplete, but it is growing, and the paragraphs below illustrate how the housing affordability issue becomes an economic productivity concern.

The housing-productivity issues can be explored by regarding housing as a good with multiple characteristics (such as size, type, location, neighbourhood context and price/rent and asset characteristics). These attributes that may individually impact the established growth drivers of spending patterns, human capital formation and utilisation, business capital and innovation systems (Maclennan, *et al.*, 2015; Maclennan, *et al.*, 2018, Reuschke, *et al.*, 2015). Using that broad framework a number of potential housing-productivity connections become apparent:

[9] ????????????
[10] ????????????

a. *Urban transformations and booms* raise construction activity as a share of economic activity and the diversion of factors from the production of other goods and services is likely to reduce short to medium term productivity given the comparatively low productivity of the construction sector (Productivity Commission, 2016).

b. *Instability in new construction demands* is likely to reduce construction sector productivity as it destroys the network of small, multi-firm co-operations required to deliver products and impacts long term labour productivity (Maclennan, 1982).

c. *Housing price growth and instabilities may drive and exacerbate wider economic instabilities,* and this may arise either through prices rising ahead of income growth leading to mortgage borrowing that is riskier in downturns or through the growth in housing wealth that is essentially pro-cyclical and reinforces consumer booms and recessions.

d. *House price rises ahead of wages and the general price level over sustained periods* may generate increasing returns in 'rentier' investments rather than entrepreneurship and innovation and disrupting established patterns of tenure choices for given age and income groups may have significant effects on lifetime patterns of savings and asset accumulation that may have productivity effects.

f. *Patterns of housing costs may impact overall consumption* (Ong, *et al.*, 2017) and when rising rents and mortgage payments, that essentially do not add to output, reduce residual incomes (Maclennan, *et al.*, 2018) and divert household spending from other goods and services (produced with higher productivity) productivity falls (and are not offset by transfer of incomes to, and increased consumption, by property owners).

g. *Rising housing rents and prices in metropolitan areas are now typically associated with longer commuting distances and times for workers and commuting distance* and this raises the probability of labour market mismatches and of reduced labour productivity.

h. *Where low income households have to live in low quality housing, or at worst become homeless, that capabilities to learn and remain healthy for work reducing labour productivity and that growing segregation of low income households into poorer neighbourhoods can expose residents, especially children and teenagers to negative 'neighbourhood effects' on human and business capital.*

A quick perusal of the 'stylised facts' of housing change in the previous section highlights that most of these potential productivity effects from housing are more likely to have become problematic with metropolitan growth in the 21st century. Housing practitioners are aware of these issues and in all the metropolitan areas in the study business leaders and organisations have expressed the views that rising housing costs have made it more difficult to attract and retain the skilled labour that firms require, creative sector workers in the culture sector (most of whom are low-waged) and essential public (and private) service workers to meet the 24 hour demands of the modern metropolis. Microeconomic evidence of these effects is patchy, partly because it has seldom been systematically looked for but also because particular effects may matter in one locality but not another. The need to garner systematic evidence is crucial because the questions is, essentially, are rising housing cost-congestion effects now eating-up the agglomeration gains from growth?

Do feedback effects consume agglomeration gains?

In fast-growing cities some systems come under immediate demand pressures but take long periods to adjust supply capacity. Sluggish responses ramp up congestion costs, prices, and scarcity rents for urban asset owners. The income and profit gains arising from agglomeration processes may be offset by the wider costs that growth may impose on a metropolitan area. This trade-off has been long recognised in urban and regional research Brown (1972).

Different kinds of evidence, with different underlying economic rigour, highlight growth-congestion effects. Indices of 'city success and performance' for cities such as Sydney, Melbourne, Brisbane, Vancouver, Toronto, London and Edinburgh, tell a common story about the last decade of housing effects on competitiveness. Sydney[11] is, arguably, the example par excellence, (Maclennan, *et al.*, 2018). It scores highly as a place to locate and form a business, has high quality labour and has world class institutions in research and human capital formation. Agglomeration 'pulls' still seem to figure strongly and consistently place Sydney in the global top 10 for these attractors. However, on indices of cost-of-living, housing prices, rents and availability it consistently ranks towards the bottom of the range of 25-50 leading world cities. This has an impact of the choices of households and firms who might come to Sydney or choose to remain there.

[11] E.g. The Economist Intelligence Unit City Livability Index: https://www.economist.com/blogs/graphicdetail/2016/08/daily-chart-14

Indicators have their limitations on their policy relevance but it remains surprising, not least as business lobbies in Sydney (Westacott, 2018), Vancouver (Vancouver Sun, 2017) and London now firmly espouse the notion of housing outcomes dysfunctional for economic growth, that metropolitan economic policymakers have much heeded these well-established market concerns.

More formal analysis, from an applied economics perspective (in the GSE framework), has usefully highlighted, for instance, that in the USA housing 'scarcities are quickly reflected in greater wealth and income inequalities and in increased dispersions in incomes and home values with lower income households forced out of the 'superstar cities' (Gyourko et.al., 2006). Albuoy and Ehrlich (2013) have explored the connections between city size, growth and economic performance ad concluded that increasing city scale raises productivity in the tradeable goods sectors but reducing scale increases housing productivity. In short, rising congestion costs in housing, and other, systems, may eat up the productivity gains from the tradeable sector and curtail national and metropolitan growth. Some of these difficulties are also recognised in Glaeser and Gyourko (2018) though planning controls are assumed to underpin the difficulties rather than market failures or wider frictions in supply response mechanisms. Hsieh and Moretti (2014) have presented evidence that firms requiring high skills have been moving away from New York and Boston to localities with lower housing costs, as skilled households seek different lifestyles and lower housing prices to establish families. Several studies have drawn attention to the shift of households and firms away from their optimum long-term productivity (agglomeration-rich) locations to lower cost localities, that makes their enterprises/lives affordable but that, at the same time, impairs national productivity (Krugman, 2014; Maclennan, Ong and Wood, 2015). Some large cities have also drawn attention to a fall in their favourable productivity differential (vis-à-vis national averages) in recent years and to reported flights of 'creative' and public sector 'key' workers (Auckland, Vancouver, Sydney, New York, San Francisco).

This growing body of evidence of housing systems producing negative feedbacks for metropolitan growth and real incomes does need more work but there is a prima facie case that housing and economic policymakers need new perspectives, conversations and actions on the role of housing in metropolitan economies.

Shaping Future Economic Policy Approaches to Metropolitan Housing Markets

Reframing the economics of housing policy-making

Berthaud (2014) has argued that agglomeration gains are only *potential* and are realised only where firms, workers and households can trade and exchange their goods, labour and ideas with minimal frictions of time and costs (and presumably secure housing at rents and prices that do not offset their gains from metropolitan labour market participation). This implies that metropolitan areas need to be managed for agglomeration gains net of congestion costs to be captured by firms and households. Failure to manage them will reduce productivity and redistribute income and wealth away from the productive sector of the economy and the effort-led earnings of workers and reward instead the unearned gains of metropolitan property owners. Failure to have metropolitan supply system responses to agglomeration driven demands can only impede metropolitan productivity growth and exacerbate adverse distributional wealth and income outcomes.

Recent research in Australia (Maclennan, *et al.*, 2015, and Maclennan, *et al.*, 2018) suggests that these issues are not well managed at national and local levels and this concurs with smaller earlier studies for Toronto (Maclennan, 2008). These studies suggest that within economics/finance ministries at national/federal and state/province levels there is a propensity to regard the housing market as a 'well-functioning system' and to sustain the old belief that housing policies are essentially redistributive and do not impact productivity.

Housing was not regarded as essential economic infrastructure, and this contrasts markedly with the views of economics/finance ministries about transport investment. For instance, The Major Cities Unit (MCU), then located at the core of the Australian Federal government, reported in 2014 (p.90) that: '*There are indications that the major cities may be losing their edge in contributing to economic growth... over a 33-year period from 1976 to 2009 the major cities recorded economic growth that was, on average, 0.201 per cent greater than the national average... However, over the past decade, the contribution of the major cities has resulted in an average economic growth only 0.037 per cent more than the national average.*' The MCU recognised the potential significance of growth-congestion costs noting that '*contributing factors may have included increased inefficiencies and productivity losses arising from an infrastructure backlog, transport congestion, and increased costs associated with the movement of freight, and the provision of services such as water, power and sewerage associated with the growth of cities.*' But what happened to the housing arguments?

In the UK, Canada and Australia, economic analysis of and arguments for disappear across the silos of government departments. A major interview study across Victoria and Western Australia (Maclennan, *et al.*, 2015), supplemented by more recent interviews in New South Wales in 2017 (Maclennan, *et al.*, 2018) leads to the conclusions that: ministries and agencies responsible for economic development and productivity growth in Australian states do not ask questions about housing effects on economic outcomes and focus on issues concerned with skills and innovation; housing ministries and agencies struggling to deal with needs queues well beyond their resource capacities focus only on the homeless and the worst housed households and have no time to ask nor answer economic questions; planning authorities neither model the economic drivers of metropolitan housing market change nor the likely consequences of planning decisions.

The MCU approach is still illustrative of a broader Australian approach to policymaking for the economy and infrastructure sectors that ignores the effects of housing on growth. There are perhaps some signs for optimism; the State of Victoria has recently assessed *social* housing as economic infrastructure but excluded, surprisingly, market-led housing investment (Government of Victoria, 2017); NSW has recently established a Productivity Commission and placed housing on its agenda. Similar, mixed, observations can be made for major Canadian and British cities. In the UK the National Infrastructure Commission, despite seeking the addition of housing to its portfolio of activities, has had its request rejected by the Government (Financial Times, June 12th, 2017) although key arguments it confronts in its major projects, as in the Oxford-Cambridge corridor, revolve around housing shortages and their economic consequences. In Canada there is little interface between national and provincial level debates on housing and infrastructure. In all the ABC countries there is no macro to metropolitan modelling of housing markets. None of the states, provinces or devolved administrations encompassed in the study regularly tested outputs of housing policy propositions within widely used Computable General Equilibrium (CGE) models, and this is an omission that is difficult to defend when housing commonly comprises a fifth of fixed investment, a quarter of household spending and is the largest component of both household assets and debts.

At Canadian Provincial levels the economics approach, as in Australian states, relies heavily on informal analysis within a GSE framework. Metropolitan economic policy-making, however, needs recourse to wider tan GSE models of change that include rather than assume away evidence of disequilibrium and real recursive effects. It is problematic when markets fail or adjust only slowly for GSE oriented policy analysts, rather than challenging the adequacy of the empirical and conceptual science underpinning their model, to conclude that planning or policy distortion is at the heart of difficulties. For those who believe, in effect, in 'perfect markets', 'policy problem' explanations in terms of 'imperfect' policy and planning distortions make perfect sense. If city economies are, however, more complex economic systems, with propensities for disequilibrium or slow adjustment or evolutionary, emergent properties and market failures, then strict and sole adherence to a GSE model basis for metropolitan economic advice may be the problem.

The fresh start towards better metropolitan housing policies for the economy requires an evidenced and informed approach to changing housing market outcomes and their economic consequences.

Policy Structures and Settings

There are some key aspects of public policies for housing, framing aside, that need to change if Berthaud's gap between achieved and potential metropolitan economic potential is to be reduced or removed. This involves rethinking the structures and settings for housing policies in major metropolitan areas in the ABC. It will be essential, inter alia, to manage the real housing system to facilitate faster supply responses, to better connect housing and other areas of policy activity, to deal with market failures, and to avoid demand stimuli that needlessly raise prices or under-utilise existing residential spaces.

An initial change will be to reconceive housing policies as being, in part, concerned with real economic infrastructure to facilitate economic development. A second step is to move away from a narrow focus on the poorest households and the homeless and to set their concerns within a broader housing systems framework that has regard to all housing outcomes in the metropolitan area (and the nation). That systems framework has several other important dimensions. First, the connections between housing and the economic system must be clearly understood. Second, these system drivers and impacts may be local, national and global. Third, housing outcomes within a metropolitan area are influenced by policy actions by different orders of government, from Federal to municipal and it is essential that housing policy influences emanating from different levels, albeit potentially pursuing different kinds of interests, cohere at local-metropolitan scales and that non-housing policies that combine with housing investment as inputs to broader policy goals are similarly co-ordinated.

It is easy to see such statements as a recipe for 'motherhood and apple pie' but they are not, simply because coherent national to local policy coordination is the exception rather than the rule. In the UK, devolved administrations have key housing policy roles but tax and, still many, social security provision are managed by the UK government. Municipalities frequently control social housing provision. There is no formal coordination between devolved areas do in housing policy and national policy actions, for instance the UK shapes the Help-to-Buy housing policy and mortgage rates throughout the UK, but the Scottish government set transfer tax rates and other low-cost home-ownership policies in the Scottish metropolitan areas. In Canada some provinces simply don't spend the housing moneys they accrue from the Federal government, and in responding to the perceived pressure of overseas buyers in Canadian metropolitan markets after 2016 there was little coordination across Provinces and no obvious coordination with federal regulatory responses in the mortgage market. In Australia different state level attitudes to the disposal of public housing lead to quite different capabilities for the non-profit sector to grow and access federal supports.

Two important policy changes are required to deal with 'multi-order' issues. First, multi-order cooperation in housing policy needs to be incentivised and this may be a matter for federal/state/provincial governments developing performance conditional housing deals with metropolitan governments. Secondly, there is a strong case given their important role in national economic development, to refocus the leadership roles in housing policy strategy and delivery down from Federal/state/provincial levels and up from municipal scales as metropolitan scales are where key housing policy decisions increasingly rest. Arguably municipal scales of policy have been overtaken by the growth of multi-municipal, functional metropolitan areas; in the UK the city deal process has led multiple municipal housing providers to merge into a combined (metropolitan) housing authority. Where state/provincial levels control most housing policy levers there is potentially a case to devolve these powers, especially in jurisdictions such as Ontario and New South Wales that are larger than a significant number of European countries in population and area, to new, functionally defined metropolitan housing and planning authorities, such as the Greater Sydney Commission.

For city municipalities, or multi-municipalities in a functional metropolitan area the problem is that costs (affordable housing, traffic congestion, green space requirements) all rise with economic growth as do tax revenues.

There may, of course, be little point in placing metropolitan areas at the core of housing policies unless they are effectively structured to deliver change. Ahrend (2015) has indicated how productivity does increase with city size but he also highlights three other important issues (Ahrend, 2015; Brookings, 2015). Metropolitan boundaries are rarely well aligned with daily functional system boundaries. Although around half of metropolitan areas in OECD have now evolved some form of metropolitan governance less than 1 in 6 have any resource/fiscal powers. So, the best geographic and fiscal structures to take forward more effective metropolitan housing powers may currently be missing. Yet Ahrend also highlights that jurisdictional fragmentation within metropolitan areas diminishes productivity at quite potent rates. The inherited governance structures for housing within multi-municipality metropolitan areas may need radical change in all the ABC countries.

Similar remarks may be made in relation to the assignment of fiscal powers to different orders of government. In all the ABC countries national levels of government have kept significant control over elastic tax bases and in all three (or Scotland in the UK) provincial/state/devolved administrations have elastic tax bases and share in resource equalisation programmes. For city municipalities, or multi-municipalities in a functional metropolitan area the problem is that costs (affordable housing, traffic congestion, green space requirements) all rise with economic growth as do tax revenues. However, the problems remain in the functional city but the tax revenues to address them accrue to other orders of government. There is no automatic flowback of locally-generated resources to pressured localities for action to reduce negative growth consequences. These issues have been extensively analysed by Slack and Cole (2014) and by the Brookings Institution in the USA (Katz, 2015) who now argue for a 'metropolitan federalism' to rebuild major city infrastructure.

Metropolitan federalism, or even the ad hoc substitute of multiple, conditional metropolitan-federal infrastructure and housing deals might induce a more elastic faster response to housing shortages. Glaeser and colleagues (2009, 2018) have consistently emphasised supply inelasticities from stringent or slow metropolitan planning and that is always an important to set of issue to check. However, it is apposite to note that the periods of prolonged, high house price inflation have coincided in time with more restrictive policy stances towards public borrowing and the public provision of major infrastructures. And a reinforcing policy setting, since the 1980s, has been a conventional wisdom in market-oriented jurisdictions that public intervention in land assembly, such as compulsory purchase, is anathema in a market system and likely to erode growth and productivity. There is a recurrent strand in supply-side research results that is seldom emphasised, is how non-price responsive new construction has become since the 1980s and this leaves open the question as to whether there may have been too little planning, in the sense of strategic planning for market provision, by metropolitan areas (or at least these who governed them).

"...periods of prolonged, high house price inflation have coincided in time with more restrictive policy stances towards public borrowing and the public provision of major infrastructures."

There are new views emerging about the potential roles for state investment in market economies with uncertainty and change (Mazzucato, 2018). Given the vast scale of the housing shortages now prevailing in the major growth localities of all the ABC nations a serious attempt to reduce house price growth for the future might have to include compulsory purchase of land, requirements for inclusionary zoning (both of which 'tax' the unearned economic rents accruing to landowners and that have no negative effect on productivity, unlike housing supports raised from taxes and borrowing) to facilitate the development of significant scale places. That is, housing policy should be a key element in 'place-making' policy, at metropolitan and neighbourhood scales. This also requires related infrastructure and services, as well as transport links to jobs and services, built into the proposal ex ante and infrastructure and planning gains taken, to the greatest extent possible by metropolitan governments.

The sustained disequilibrium and rising real housing costs encountered in major metropolitan areas in recent decades suggest that 'first-best' economic instruments will have limits in shaping desired growth and distribution outcomes. The 'well-functioning' market stance that leads to policy inaction clearly needs to change. Equally 'efficient' instruments such as ex ante, income related housing allowances, may be left to play out in imperfect systems with persistent shortages and simply raise housing costs charged by providers. Deregulating planning, of a strategic place-making nature, may well raise uncertainties over where development may occur and exacerbate mismatches between residential and production location choices. Consumer choice (ex ante allowances) and reduced regulatory burdens (reducing planning controls and delays) are desirable but they require effective markets to work. In contrast, 'planning-state' solutions also have their inherent failures and in some contexts there is a re-emergence of arguments for housing policy instruments extensively abandoned after the 1980s. (Limited) rent controls have received a new advocacy as affordability problems for renters rise. Calls for major public housing investment programmes have resurfaced, at least in the UK. Both calls have been un-matched by any clear thinking about the housing system and economic consequences.

To deliver real gains, planning must be well designed, informed and economically literate. Going beyond the 'well-functioning' market basis for policy requires a planning approach not driven by state power and bureaucracy but by intelligent, informed, economically literate approaches to developing metropolitan infrastructure plans, including housing, that engage multiple sectors (public, private and non-profit) and that work collaboratively with all levels of government. We cannot discount the possibility that a failure of politics will perpetuate the failures of markets in metropolitan management and make cities less fair and less productive than their potential. Poorly designed policy settings for the housing sector have created a context in which housing failure is a near inevitability of economic 'triumph'. That needs to change.

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