

# 1 Real estate (RE)

## An overview of the sector

### Main sections

Learning outcomes

- 1.1 Definition of real estate (RE)
- 1.2 RE subsectors (or submarkets)
- 1.3 The location factor
- 1.4 Location and ‘authentic’ versus ‘derived’ demand for RE
- 1.5 Other characteristics of RE – and wider interactions
- 1.6 Why study RE economics?

### Having gone through this chapter, a student should be able to

- 1 Define RE and list its main components.
- 2 Distinguish between ‘derived’ and ‘authentic’ demand for RE.
- 3 Explain how RE subsectors (or submarkets) are created.
- 4 List and discuss RE’s main characteristics.
- 5 Discuss the main implications of those characteristics for (a) a cityscape, (b) financial markets and rates, and (c) the GDP.
- 6 Advance reasons for studying RE economics.

### 1.1 Definition of real estate (RE)

What is real estate (RE)? It is a name given to land, buildings, and legal rights over immovable property,<sup>1</sup> especially when they can be priced for possible sale in an actual or potential market.<sup>2</sup> Usually such a price reflects *derived demand*. The latter originates from demand for the physical good or service that is or can be produced, or sold, on a piece of land or in buildings. For example, residential land is demanded for the dwellings it can support; the dwellings, in turn, are usually demanded for the flow of ‘housing services’ (including access to work or amenities) they can generate. Agrarian land is demanded for the crop one can grow on it. Retailers demand sites as gateways to customers (see Chapter 6).

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In some cases (e.g., landscapes of pristine beauty, conservation land, or monuments), land is demanded as is, i.e., for itself rather than as a means to an end. This type of land, however, is often subject to protection (meaning that its current use becomes legally exclusive of all others), and can easily become priceless too, even though one can still evaluate it in terms of opportunity cost. Of course, any such evaluation would almost certainly result in lower opportunity cost estimates than the value of land in its current state: that of an exceptionally beautiful landscape or as location of a monument, like the Acropolis of Athens, England's Stonehenge, the Taj Mahal in India, or – maybe! – Elvis Presley's Graceland mansion in Memphis, Tennessee.

### 1.2 RE subsectors (or submarkets)

Derived demand for RE is the rule rather than the exception. Its existence is one way whereby RE *subsectors* or *submarkets* are created.<sup>3</sup> As an example, agrarian land competes with residential land, and the latter with commercial (offices, hotels, retail outlets) and industrial (including warehousing), since all these different land uses are defined by different goods or services, which, moreover, sell at different prices. A structure of land prices is thus created that is very much determined by the highest price that can be paid for the 'best' land use.

A second way whereby subsectors or submarkets come about involves the specific characteristics of land (its location, its features and properties, and its relative scarcity) and of the general environment – which means that even within the same broad land use (e.g., residential), different prices and different subsectors or submarkets will emerge (e.g., 'good' versus 'bad' neighbourhoods). A third way relates to the characteristics of buildings, giving rise, for example, to the markets for new versus old buildings. A fourth way is generated by the diversity of legally recognized property rights pertaining to RE assets. Examples of such rights are ownership versus renting versus in-between<sup>4</sup> tenures or *freehold* versus *leasehold* (see Box 1.1). All four ways interact, creating a fluid plethora of RE subsectors or submarkets.

In this universe, the broadest possible distinction is between housing and non-housing RE. Both are extremely important. Both interact. But of course the largest part of the so-called urban environment is made up of housing, whether rented or owner-occupied. The sum of housing-related transactions constitutes the housing market.<sup>5</sup>

#### Box 1.1 Freehold versus leasehold

*Freehold* (or *fee simple* or *fee simple absolute*) is the right to own land in perpetuity (IVG, 2003).

*Leasehold* is the right to hold or use property for a fixed period of time at a given price, without transfer of ownership, on the basis of a *lease* contract ([www.investorwords.com](http://www.investorwords.com)).

A *lease* is a contract arrangement in which rights of use and possession are conveyed from a property's title owner (called the landlord, or *lessor*) in return for a promise by another (called a tenant, or *lessee*) to pay rents as prescribed by the lease (IVG, 2003).

In the UK residential sector, a lessee who buys the freehold of the house he/she has been renting from a lessor achieves *enfranchisement*. So do lessees of flats who collectively buy the freehold of their building. The process creates a *marriage value* (an increase in the value of the property resulting from the joining of the freehold and leasehold interests), which under law is split between landlord and (enfranchised) tenant(s). Marriage value is also created from the granting of a lease extension. (For details and analysis, see [www.lease-advice.org](http://www.lease-advice.org).)

Because housing submarkets obviously exist, some authors have gone as far as to ask whether it is legitimate or meaningful to speak of a single, homogenized market in housing at all (Alhashimi and Dwyer, 2004). This is perhaps too extreme; by analogy, one shouldn't speak of the market for chocolate, because there are different brands and kinds of chocolate. It is more fruitful, and also more helpful to policy makers, to determine why and how housing submarkets arise in the first place, or whether they persist over time. To this end, an interesting question is whether the definition of a housing submarket should be limited to instances where obviously different dwellings (in terms of location, the physical and socio-economic environment, and/or structural attributes) have different prices, or should be extended to instances where the same, or a 'standardized', dwelling, or an attribute of a dwelling, is found at different prices (see Robinson, 1979: 33–7; Jones et al., 2002; Pryce and Evans, 2007).<sup>6</sup>

Not only do housing submarkets exist (see Munro and Maclellan, 1987), but, moreover, they persist over time (Jones et al., 2002). This is not a trivial conclusion. For, in theory, price differences could be eliminated, and submarkets vanish, if developers built in high-price areas and households relocated to low-price ones (Jones et al., 2002: 3). Since this is not happening, housing submarkets can be interpreted as a measure of housing market imperfections, relating to things such as search and transaction costs, moving inertia, insufficient information, and inelastic supply, to name but some of standard economic theory's culprits. Such 'imperfections', however, may be inevitable, impossible to remove, and even desirable: for example, households of a certain social class may be more than willing to pay a premium for a 'standardized' dwelling in order to congregate away from other groups (see Kain and Quigley, 1970; Maclellan and Tu, 1996).

### 1.3 The location factor

The defining characteristic of RE is that it is *specific to location*. Again, location is usually demanded as a means to an end, but very often it is also demanded for its own sake – without in fact becoming priceless. For example, when one says, 'I like this neighbourhood because I grew up here', how can one separate location from what location gives one in terms of feelings or social contacts? Is this a case of demand for the item or of derived demand for what the item is associated with? In truth, the one is subsumed under the other, and an attempt at separation would be tantamount to hair-splitting, with little, if any, practical significance or implications.

What is more important is that location imparts a monopoly element, i.e., an element of 'uniqueness' or 'exclusiveness', to any particular piece of RE. The monopoly element can be weak, as when many different locations convey fundamentally the same cost (or revenue, or utility)<sup>7</sup> advantage of access to work, amenities, feelings and social contacts,

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markets, suppliers, or clienteles; or, alternatively, it can be strong, as when a small number of locations (or one, at the limit) confer such an advantage.

Still, in the vast majority of cases, a RE market cannot be truly monopolized, even though any particular location can be or is so. The reason is that there usually are substitute locations to choose from; possibly at a lower land cost to the interested user, but at a higher transport cost or at a higher opportunity cost of foregone revenue or utility. Thus, *the RE market is a typical example of monopolistic competition* (many buyers and sellers, each seller offering more-or-less different versions of fundamentally the same good, and, therefore, extensive – even though not perfect – *substitutability* between RE assets).

Whether weak or strong, the monopoly element exists, and is the decisive factor making the supply of land inelastic. In turn, inelastic land supply implies that increases in demand for RE will result in higher than otherwise RE prices (see Box 1.2, Figure 1.1, and Box 1.3). It also implies that price rises in RE are, most of the time, demand-, rather than supply-, driven.

##### Box 1.2 The supply of land is inelastic

*Land's inelasticity of supply* means that on any given geographical area the percentage change in the quantity of land supplied is smaller than the percentage change in land price; if no amount of change in price causes the quantity of land supplied to change, then inelasticity is perfect, and the supply of land in a typical price–quantity diagram graphs as a vertical line (see Figure 1.1).

Perfect inelasticity of land supply would occur only in two cases: (a) over land as a whole, i.e., all the land in a country or even on the planet; (b) over land at a specific location. However, the supply of land in a given area or for a specific use will usually be imperfectly inelastic, since, given the ‘right’ price, more land can be attracted away from other areas or uses. As a special case, improvements in high-rise building technology may increase the elasticity of land supply even in a vacant plot, i.e., a specific location. (‘Vacant’ here also means a plot where a standing building has exhausted its economic value.)

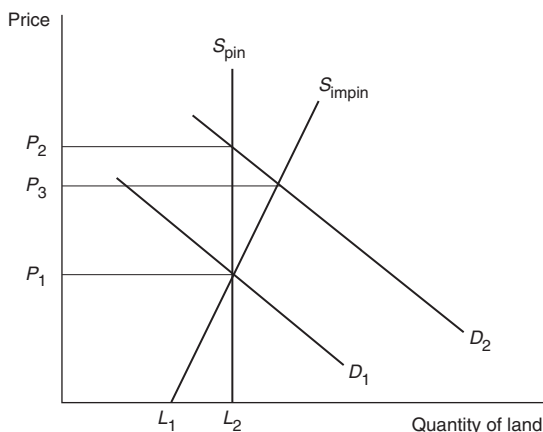


Figure 1.1 An increase in demand from  $D_1$  to  $D_2$  causes price to rise from  $P_1$  to  $P_2$  when supply is perfectly inelastic ( $S_{pin}$ ), but only to  $P_3$  if supply is imperfectly inelastic ( $S_{impin}$ ).

In Figure 1.1, the horizontal intercepts  $L_1$  and  $L_2$  mean that in a certain area or location, some 'land' (in the form of one or more plots, or one or more buildings) will still exist even at a zero price. In the case of imperfectly inelastic land supply ( $S_{\text{impr}}$ , with a horizontal intercept  $L_1$ ), subsequent increases in quantity supplied as price rises come about through more land being attracted away from other uses, or through existing land being more intensively utilized. In the case of perfectly inelastic land supply ( $S_{\text{pin}}$ , with a horizontal intercept  $L_2$ ), no rise in price can create (or make available) more land.

### Box 1.3 The importance of land: an example

In the USA '[b]etween 1975 and 2006 [land accounted], on average, for 36 percent of the value of the aggregate housing stock. Over the same period, the inflation-adjusted price of residential land nearly quadrupled, while the real price of structures increased cumulatively by only 33 percent. At business cycle frequencies the price of land is more than three times as volatile as the price of structures.'

(Davis and Heathcote, 2007: 3)

## 1.4 Location and 'authentic' versus 'derived' demand for RE

Because of the location factor, it would be hasty to assume that all demand for RE is fully derived; instead, it is quite likely that in many pieces of RE total demand for the item includes a non-derived (i.e., authentic) element, for example when the built structure and/or the location in question have emotional, social, or 'brand' value. Residential RE is the strongest example. On occasion, some types of commercial RE, mainly offices, may also give rise to 'authentic' demand, for example if having an office in a certain location and/or at a certain building adds to a firm's reputation.

In fact, the relatively large extent of authenticity in residential RE demand is one factor that sets this kind of RE apart from other kinds (e.g., commercial, industrial, and agrarian), even though standard economic models of residential RE demand relate the latter to distance from work or amenities (see Chapters 7 and 10); any authentic element in this demand (for the item itself rather than for any economic benefits with which the item may be associated) is usually subsumed under the notion of utility. In fairness to the economic profession though, it must be stressed that the necessities of practical life do tend to make most households choose where to live on the basis of mostly 'mundane' considerations, like house price in relation to income, proximity to employment, transport costs, and suchlike.

In the case of owner-occupation, another 'mundane' consideration is the relationship between a homeowner's outstanding mortgage debt and the market price of the property. A large debt relative to price may actually 'pin' a homeowner down when, perhaps, he or she might be better off moving. Hence an important issue that often arises in relation to owner-occupation in particular is whether, and to what extent, it affects the *mobility of labour* (see Chapter 3). This is an important consideration in its own right, as it impacts on the functioning of the labour market and, possibly, on the extent of unemployment. It may also be that residential owner-occupiers' 'authentic' demand for location is frequently stronger than residential renters' 'authentic' demand for location. If true, this would also reduce the mobility of owner-occupiers relative to that of renters.

Be that as it may, most human activities, particularly productive ones, take part on or in pieces of RE. This is what makes it important and worthwhile to study.

### 1.5 Other characteristics of RE – and wider interactions

In addition to a fixed location, there are other characteristics of RE that merit notice. One is *durability* – a long physical life span. Another is the *high construction cost* of buildings. Land as ground is ‘there’; it is not destroyed easily, although soil erosion and pollution are problems in many parts of the world. Land can be upgraded or improved too – but then it is more proper to consider such improvements as capital additions to land, and separate from the latter. Buildings tend to last a long time (although not as long as the ground does). Their cost of construction (or renovation) is high relative to the prices of most other products – or to average income. Construction takes place on land, and land is in short supply at any given location – a fact that raises its price significantly once there is a demand, or demand increases, for the plot. High construction and land costs make for a rather expensive final product (the built structure), at least in relation to most incomes.

Yet another characteristic of RE is that it constitutes *wealth*: it is durable, expensive, relatively scarce (on any given location), and can function as an asset, i.e., it can command a relatively high price, often an income (e.g., an actual rent), and possibly a capital gain if it is sold. It thus tends to be readily comparable with other assets (stocks, bonds, money, and other physical capital) that are capable of commanding returns and/or a capital gain – and then its attractiveness goes beyond its use as a consumption item, and extends to its potential as investment (see Chapter 5).

Also, residential RE, being the most important asset that most people possess or go for, can be a key factor in determining a given generation’s well-being, the life-chances of the next generation (who stand to inherit RE wealth), the degree of financial security for older persons (whose pensions may be insufficient), and people’s willingness to save more in order to acquire RE. The last point – about saving – is important: a higher savings rate can lead to more investment – therefore greater prosperity in the future for society – and may help finance social security systems that are hit by adverse demographics.

The six facts mentioned about RE – location specificity, inelasticity of land supply, pivotal place in human activities, durability, high construction costs, and the wealth feature – have, alone or, usually, in combination, three wide-ranging implications:

- 1 Once a building is erected, it helps define the landscape, particularly a cityscape, for many a year; other construction must take its existence into account – and by that are meant questions like: What is the current use of the building? Is it wise (i.e., profitable, or maybe ‘functional’) for a new building near this one to be dedicated to the same use? How far away from, or how near to, this one must a new building be? This way, a chain reaction is created, with repercussions spreading all over an urban area. For instance, if the building is a shanty, the ‘final’ outcome of its existence may be the creation of a shanty town or a downgraded neighbourhood. Or, if the building is an expensive single house with garden, the area may in time grow or change into a luxury suburb; or if it is *already* a luxury suburb, its character as such will become more pronounced. Thus, *RE affects – indeed is the most important part of – urban structure and form.*
- 2 The time horizon for *investment* in buildings (or other land-bound construction) is long-term, and the investment itself is usually of substantial size. In shanty towns, such

'investment' betrays a commitment to gain a foothold in the city, with all sorts of social, political, environmental, and labour-market repercussions. In free-market developed countries, such investment (more properly called so in this context), whether in the form of new construction, or renovation, or in the form of purchase of second-hand buildings, and on account of its necessarily large size, typically requires substantial monetary outlays.

This means that, one way or another, sooner or later, long-term financial instruments like mortgage loans come into play, whose interest rates interact, however, with those of other long- and even short-term financial instruments (if the wider financial market is efficient enough). Thus, *RE affects – and is affected by – financial markets through interaction between mortgage and other interest rates and yields*, which then affect the entire economy. However, the interaction between mortgage rates and other rates is not the only interface between RE and financial markets. RE is itself an asset, and as a result *RE returns interact directly with returns on other assets* (see Chapter 5). For example, rents and the prospects of capital gains on a piece of RE compete with dividends and possible capital gains on a company's stock, or with the yield on a government bond.

- 3 Because mortgage interest rates affect the extent to which loans will be taken up in order to finance investment in RE (see Chapter 4), they affect the extent of such investment (see Chapter 3). The latter affects GDP directly and materially, while the ups and downs of (real) GDP (hence of real incomes) tend to affect investment in RE (whether physical investment – as in the case of new construction – or financial investment<sup>8</sup> – as in the case of buying existing properties). Also, the wealth aspect of RE, particularly residential RE, is thought to affect consumption spending – the biggest component of GDP: as house values appreciate, owner-occupying households are supposed to feel more confident about spending more on current consumption (see Chapter 3). This is called the *housing wealth effect*.

So, in addition to RE interacting with financial markets, RE and GDP also interact, first through RE investment flows, second through the asset, or wealth, feature of RE (see Figure 1.2).

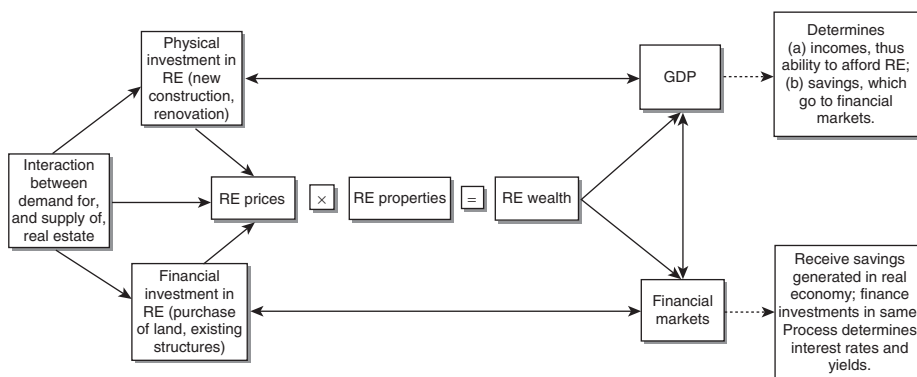


Figure 1.2 From RE demand and supply to GDP and financial markets.

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The list of RE characteristics goes on:

- RE is not a homogeneous product: RE pieces differ from one another if for no other reason than location – and obvious additional differences abound of course. Nevertheless, any RE class can be treated at a general level, depending on the purpose of the analysis. Take *generic* housing, for example; if the purpose is to construct a demand model for housing in general, looking at those factors that *broadly* determine such demand, then the specific characteristics of each and every house – or household – can be ignored.
- The very heterogeneity of RE makes obtaining accurate information about different pieces of RE particularly difficult. Thus, pricing RE is partly guesswork and only partly science, especially where large databases on RE physical characteristics do not exist or are inadequate.
- Together, heterogeneity (due to location and other differentiating attributes), imperfect information, substitutability between RE assets, and (typically) large numbers of buyers and sellers define the nature of the RE market as a monopolistically competitive one.
- Because of RE's effect on urban structure and form, and also because of its wealth aspect, RE is heavily regulated by government, with zoning and building regulations, solvency and valuation rules involving the investment of financial institutions in RE,<sup>9</sup> inheritance laws and taxation, etc.
- As opposed to most other goods that are placed on a market, RE is associated with substantial indivisibilities. For example, it is usually neither sensible nor possible to buy half a single house,<sup>10</sup> and there may even be limits to subdividing land plots (limits set both by planning authorities and by economic necessity).
- Heterogeneity and imperfect information, the need to secure the legal rights that change hands in RE transactions, indivisibilities, and the obligation to conform to government regulations imply high transaction costs (including search costs) for RE (see Quigley, 2002).

Overall, RE is a key element of the macro-economy, including (local) government finances. RE's relationship to consumption, saving, and the GDP has already been mentioned. So has its investment aspect, and its link to the capital and the labour markets. Through all these channels, RE interacts with the wider economy. For instance, new construction and renovation contribute significantly to GDP. But consider the following example, which draws the capital market into the picture too. A drop in lending rates makes RE more affordable (a rise has the opposite effect). Greater affordability leads to increased demand; i.e., for a given RE price, the quantity demanded becomes larger. However, with the supply of RE being rather inelastic (especially in the short term), the price of RE rises too. There will probably be an increase in the availability of previously vacant properties, but eventually the rise in price will make new construction more profitable, so supply increases further. New construction augments GDP and (presumably) overall economic prosperity. Interestingly, the whole process may proceed relatively smoothly, or it may lead to a RE price bubble (see Chapters 8 and 11), whose eventual burst may have dramatic consequences for lending institutions and ultimately the whole economy – and thus for the lives of millions. Reasons for such a big effect involve the wealth aspect of RE, its investment aspect, and its relation to debt (i.e., the debt that many people incur in order to finance their purchase of RE).



Under a different scenario, stronger demand for RE (say, due to population pressures or to the establishment of foreign companies in a city) may lead to higher lending rates for the finance of RE. But in a modern financial market all rates interact, so, *ceteris paribus*,<sup>11</sup> *lending rates on industrial or retail finance will also go up. This will negatively affect the non-RE sector of the economy.*

Finally, changes in the value of RE affect the amount of RE-related tax revenue a central or local government will collect, while, on the other hand, increased taxation of RE will adversely affect both demand for and the supply of it (see Chapters 9 and 10).

Figure 1.3 presents a stylized picture of the position of RE in the wider economy, emphasizing many of the links presented above.

Box 1.4 sums up the attributes characterizing RE.

#### **Box 1.4 Characteristics of real estate (RE)**

- 1 Fixity of location
- 2 Price determined mostly by derived demand, subject to inelastic land supply
- 3 Use and availability defined by forms of legal (property) rights
- 4 Heterogeneity
- 5 Imperfect information
- 6 High transaction, search, management, and moving costs
- 7 Monopolistically competitive market organization
- 8 Indivisibility, in most cases, most of the time
- 9 Fragmentation into (interacting) subsectors or submarkets
- 10 Durability
- 11 High construction cost of buildings (in relation to most products and to most incomes)
- 12 Impact on urban structure and form
- 13 Interaction with financial markets
- 14 A strong wealth aspect
- 15 Multi-faceted interaction with the wider economy

## **1.6 Why study RE economics?**

The preceding discussion helps advance reasons why a study of RE economics can be socially and professionally useful:

- 1 To assist in policy-making (see Chapters 3, 4, 7, and 9–11). If RE-related processes interact with the wider economy to the extent suggested, economists who understand the basics of this interaction can help central and local governments, and also monetary authorities, formulate appropriate economic, social and monetary policies – even when such policies are not intended to impact directly on the RE sector.
- 2 To learn how to price RE and make better RE investment decisions (see Chapters 5–7, 9, 11, and 12). All sorts of business investors and ordinary people are interested in buying, selling, exchanging, keeping, upgrading, demolishing, building, or renting RE. Many financial institutions in particular (banks, insurance companies, pension funds, and REITs)<sup>12</sup> are keen to invest other people's savings (which those institutions manage)

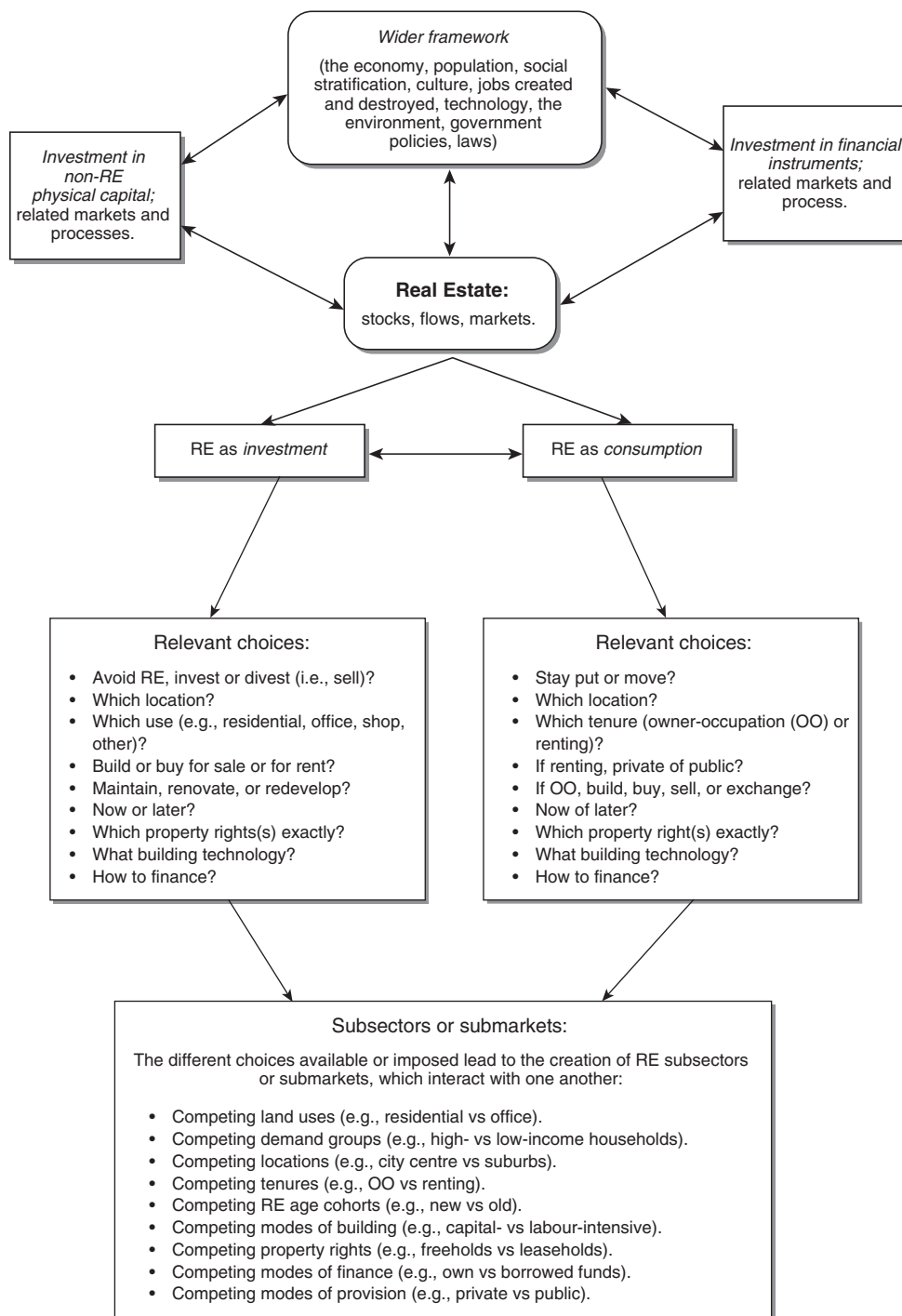


Figure 1.3 The position of RE in the wider scheme of things.

in RE, or divest themselves of particular properties, if the price and outlook are right. Other entities who get involved in those processes are estate agents, surveyors, valuers, builders, developers, and, importantly, tax authorities. All of the above want to know what affects the value of RE, and ultimately the value itself.

- 3 To find employment in one or other of the institutions and entities just mentioned.
- 4 To learn how the economic processes surrounding RE affect, or are likely to affect, cities and, generally, the landscape (see Chapters 6, 7, and 10). This is an area of great interest to city planners and central and local governments, one of whose typical responsibilities is the design and implementation of appropriate land and housing policies. It is also of interest to many private businesses (e.g., retail shops and chains) and ordinary people who happen to operate or live in cities and want to assess the merits and demerits of specific location decisions.