

4. Valuing the land – how to measure land values

In principle, the charging of landowners for the land that they occupy according to its value, disregarding what is built on the land or what it is being used for, is simple. But first, the value of land needs to be measured.

The only definite measure is when a piece of bare or cleared land, or its lease, is sold, assuming that the negotiated price (which might differ somewhat from the advertised price) is a measure of its value to the economy, and to society, at that moment. The trouble is that, mostly, when land is bought and sold, it is along with the buildings or productive activities on the land. How can the value of the land in such transactions be separated out?

Moreover, even for properties as a whole, including the land on which they stand, barely one per cent is actually on the market at any one time. Thus, while it might be possible to know the value of those properties when they are sold, how can one know what the value is of the other 99 per cent of properties? This, of course, concerns all taxes based on property, including, currently, the council tax on homes, and the national non-domestic rates on commercial properties. However, within the property industry, a whole profession of valuers has grown up whose practitioners are able to give reasonably accurate estimates of the value of properties, taking into account their location, and the prices being fetched by similar properties on the market in the neighbourhood. It is on this basis that the council tax and national non-domestic rates are set.

But in the case of LVT, there is still the apparent problem of separating out the land element from the value of the property as a whole.

Valuing land separately from developments on the land

It is often thought that valuing land accurately and separately from the buildings and developments on the land is more difficult than valuing properties as a whole, including the land element – especially since the incidence of bare land being sold, which could provide a benchmark for valuing other land, is rare. However, even now, property developers call upon professional valuers to value particular sites becoming available for re-development, and they do this without difficulty.

In fact, valuing land is less complicated than valuing buildings. That is because the only factors that need to be considered are location and potential use consistent with prevailing planning regulations, whereas for buildings, additional factors, such as the state of repair, what the buildings are being used for, how old they are, their architectural merits, their internal space, and so on, have to be taken into account. The valuation of land, therefore, can be more easily generalised. This allows the extensive use of modern information technology, including computer-aided mass assessment and geographical information systems (GIS).

One method for assessing the value of land separately from the value of buildings on the land is to start with the known market value of the property as a whole (the building plus the land), and then deduct the value of the buildings, which roughly corresponds to the estimated rebuilding costs for insurance purposes, adjusted for depreciation. The remainder will be the value of the land. This is known as the 'residual value' method of assessment. There are a number of other methods, which can act as a cross-check on one another.

By collecting data on valuations and sales of similar properties in different locations, and on the valuations and sales of different properties in the same neighbourhood, including differences between property prices and their values for insurance purposes, and other data, it is possible to arrive at reasonably accurate estimates of land values over the whole country. This and other information can then be used to construct what Tony Vickers, at the School of Surveying, Kingston University, who is pioneering such techniques, has called a 'land-value-scape', with maps, instead of showing contour lines depicting topography, show lines marking off localities and zones with equal land values per hectare or square metre. Thus, simply knowing the area of a site, one can immediately calculate its value by referring to its position on the map, which would be available for public scrutiny.

Once such a system for valuing land is up and running, by recording and tracking property sales and other data throughout the country, it would be possible to update land values more or less continuously. Over time, it would be possible to incorporate new data – perhaps using a points system that would take into account proximity to amenities and services, which would increase land values, or congested roads or unsightly vistas, which would depress values – so that the system of land valuation would become ever more refined.

In short, it is not true that valuing land is problematic, as opponents or sceptics of land value taxation often assert – often the same people who quite happily accept the valuation of buildings, even though this is more difficult. Valuing land, especially in towns, which is where the most valuable land is located (because it is in high demand) is much simpler, because, as discussed, it depends essentially on location. Indeed, in the United States where split-rate tax systems operate, according to a valuer in one city, some 95 per cent of his valuation staff is employed valuing buildings, whilst only 5 per cent is involved in valuing land. Moreover, invariably, there are many more appeals against the valuation of buildings than of land, with authorities winning more appeals on land than on buildings.

Capital values versus rental values

The methods most frequently used for valuing land give its capital value. This is often presented as a problem, because for the purposes of charging landowners for the use of the land that they occupy on an ongoing (normally annual) basis, it is generally assumed that it is the rental value that is required. However, in a modern economy, it makes little difference, because capital values can easily be converted into rental values simply by multiplying capital values by the prevailing discount rate, which is the average going rate of return on capital invested in all economic activities. Conversely, rental values can be converted into capital values by dividing by the discount rate.

For example, if the discount rate is 10 per cent, a site with a capital value or market price of £100,000 would have a rental value of £10,000 per annum (the capital value of £100,000 multiplied by the discount rate of 0.1).

The discount rate is a figure that is readily available because it is used by investors and financiers to decide whether or not to go ahead with a particular investment or the granting of a loan for a project. A way of conceptualising the meaning of discount rate in the present context is to pose the question, would it make more economic sense to sell a site, or rent it out? If a site had a capital value of £100,000 (which would be the amount one would expect if sold), and one could get £10,000 a year in rent for the site, that would represent a 10 per cent return. So, if one decided to sell the site, other things being equal, one would want to be able to invest the cash somewhere that earned at least 10 per cent. That in effect would represent the discount rate.

When discussing rates of LVT, much depends, obviously, on whether one is referring to capital values or rental values. For example, if a site with a capital value of £100,000 raised £2,000 per annum in LVT, the rate of LVT in terms of capital value, would be 2 per cent. The same site, assuming a discount rate of 10 per cent, would have a rental value of £10,000 (see above), so for the same amount of revenue raised, the rate of LVT would be 20 per cent.

There have been occasions when people have been confused into opposing LVT because they believe that such a rate of LVT is referring to a tax on capital values. But even a rate of 100 per cent of rental value would only be 10 per cent in terms of capital value, assuming a discount rate of 10 per cent. And if the discount rate was only 5 per cent, the rate of LVT in capital terms would be just 5 per cent. So when discussing the rate of LVT, it is important to state whether one is referring to capital values or rental values.

The effect of planning regulations on land values

Planning regulations, which exist in every country, including Britain, can have a profound effect on land values. For example, sites in the middle of town, with a wide range of amenities available, if designated a residential or commercial area would have a high land value. Such sites would likely have even higher values with planning permission to build a multi-storey block of flats, compared with, say, those with permission for low rise semi-detached houses with gardens.

On the other hand, land designated as a public park would have a low, or even nil value, since it could not be bought or sold, or built on. However, the park would tend to boost the value of surrounding sites because green views and opportunities for leisure activities would make the area more desirable for homes or work.

Meanwhile, land on the edge of towns designated for agriculture or as common land, perhaps as a measure to contain urban sprawl or to protect a 'green belt', would have a low value compared with, say, neighbouring sites designated for residential or industrial use.

Some idea of the enormous variations in land value according to permitted use may be gleaned from the following figures from the Valuation Office Agency. Thus, in 2007, it was estimated that the average price of land designated for agriculture in England was £9,287 per hectare, while for different kinds of

industrial and commercial use it was between £630,000 and £749,000 per hectare, and for residential use it was as much as £2.46 million per hectare.

From these data, it is obvious that the land value of a site can change quite dramatically if planning permission is granted for a new use. For example, a former industrial or commercial site if re-designated for residential use, could see its value rise almost fourfold, while a site on the edge of town formerly designated for agriculture could see its value leap by as much as 200 times if planning permission were granted to build houses on the land.

Furthermore, once a site has been redeveloped following the granting of planning permission, this will affect the land values of neighbouring sites. For instance, if the new development resulted in new economic and social activities coming to the area, thus enhancing its appeal as a place to invest, live, work or socialise, or if it gave rise to improved transport connections, land values in the whole neighbourhood would tend to rise. On the other hand, if planning permission were granted for a new factory or an incinerator, this could cause land values to fall.

The need for regular valuations

The valuation of land needs to be conducted on a regular basis, because land values can change considerably year on year.

First, as just discussed, land values are highly dependent on planning regulations, and can change markedly when planning permission is granted for a new use. This may also affect the land values of neighbouring sites.

Second, land values are highly affected by changing patterns of economic demand for properties and land (that is demand from people and businesses with the means to procure property or land), which reflects changes in the performance of the economy as a whole. If the economy is growing, this will tend to boost the demand for property and land, which will push up land values, while the opposite is more likely to occur in the event of an economic downturn.

What is happening in the global economy also affects land values. For example, between 2006 and 2008, there was a huge increase in the global demand for food grains, mainly from the booming economies in East Asia, which caused international prices to double or more. This increased demand for agricultural land and therefore its value, which, in England, more than doubled during that period.

Furthermore, the economic demand for property and land, and therefore the value of land, is highly dependent on the availability of credit. When credit is only loosely regulated, as in most countries since the early 1980s, this will tend to push up demand and land values – all the more so when banks, in their drive to gain business ahead of their competitors, drastically relax their conditions for lending to home buyers and property developers, which is what happened almost everywhere between the mid-1990s and the early years of this century.

As discussed in Appendix 2, this was the major factor that caused the huge escalation of house prices during that period, which was almost entirely due to rising land values, since building costs changed hardly at all. However, when the availability of credit dries up, as happened in Britain and elsewhere in 2007 and 2008, this reduces the economic demand for property and land, thus causing a fall in property prices and land values.

Other factors may also affect land values, such as natural disasters.

For the purposes of collecting LVT, using out of date land values for a relatively short period does not matter too much, because the land values of all sites will tend to move in parallel, reflecting trends in the economy as a whole, with the land value of sites relative to one another, which is the more important factor as far as collecting LVT is concerned, changing hardly at all. However, over time, changes in the relative values of sites will gradually become larger, which would need to be taken into account.

A reasonable compromise would be for valuations to take place every one or two years. However, once a system of valuing land, as described above, was up and running, it would be possible to assess land values more or less continuously, and at little cost, so that the issue would not arise. The LVT due on a site in a particular year could simply be based on its average land value over the previous year.

Fluctuations in land values also affect the amount of revenue that can be raised from LVT at a given rate of LVT. If it is desired to maintain revenue from LVT at a certain level, this could be addressed by varying the rate of LVT. Alternatively, allowing the amount of LVT due to vary could act as a means to smooth out economic cycles (see Section 7).

Accounting for the effect of LVT when valuing land

When valuing land after LVT has been introduced, the effect of LVT on the market value of land needs to be taken into account. First, consider what the effect would be of introducing LVT when there had been none before.

Take a site valued on the market for £100,000 before LVT was introduced. Assuming a discount rate of 10 per cent, the rental value of the site would be £10,000 per annum (£100,000 multiplied by the discount rate of 0.1). Now consider the effect of introducing LVT at a rate of 20 per cent of rental value. The amount of LVT due would be £2,000 (£10,000 multiplied by the rate of LVT of 0.2). If the landowner was renting out the land, this would mean that out of the £10,000 he or she received in rent, £2,000 would go in LVT. In other words, the market value of the site in rental terms would fall from £10,000 to £8,000. However, the total land value of the site would remain £10,000. It is just that £2,000, out of the £10,000, would now go to the community as a whole – that is those responsible for creating the value of the land – rather than, as now, to the landowner, who would have contributed almost nothing to the site's value.

The fall in market value of the site in rental terms, following the introduction of LVT, would mean also that its capital value on the market would fall. Assuming a discount rate of 10 per cent, the new market value of the site, which would be its price on the market, would be £80,000 (£8,000 divided by the discount rate of 0.1). In other words, the market value of the site, or its price, would have fallen by 20 per cent – the same as the rate of LVT in rental terms.

A similar calculation can be performed using only capital values. Taking the same site valued initially at £100,000 on the market, if LVT was now introduced at a rate of 2 per cent of the site's capital value, the amount raised would be £2,000 per year, as before. The capital equivalent of that sum, assuming a discount rate of 10 per cent, would be £20,000 – which is equivalent to the amount of capital one would require to obtain the £2,000 a year to pay the LVT. This £20,000 represents the amount by which the market value of the site, or its price, would be reduced. In other words, the market value of the site would fall to £80,000, the same result as before. However, the total capital value of the site would remain £100,000, including that part now going to the community.

If the rate of LVT were raised to 40 per cent of rental value, the amount of LVT going to the community would go up to £4,000 (£10,000 multiplied by the rate of LVT of 0.4), and the amount going to the landowner would fall to £6,000, which would be its new rental value on the market. However, again, the total rental value of the site would remain £10,000. The market value of the site in capital terms, that is its price, would also fall – to £60,000, assuming a discount rate of 10 per cent (£6,000 divided by the discount rate of 0.1), though its total capital value would remain, £100,000.

In short, the higher the rate of LVT, the more this will tend to lower the market value of land, or its price, but it will have no effect on total land values, including the amount going to the community in the form of LVT.

Now consider a site valued on the market by valuers for £100,000 once LVT was already operating. When valuers value land, they would merely be looking at the market value of the land – what the site would fetch if sold or what rent it would command on the market. They would not take into account the effect of LVT on market values. Yet the rate of LVT needs to be set in terms of the total value of the site, including the amount going to the community in the form of LVT. The question is, what would be the total value of a site if its market value was £100,000? This can be determined through a simple calculation.

Thus, assuming a discount rate of 10 per cent, a site valued at £100,000 would have a market rental value of £10,000 per annum (£100,000 multiplied by the discount rate of 0.1). Let the total rental value of the site be R. If the rate of LVT is 20 per cent of rental value, the amount of LVT going to the community would be 0.2R. Meanwhile, the site's total value would be its market rental value – in this case £10,000 – plus the amount of LVT going to the community, which is 0.2R. In other words,

$$R = £10,000 + 0.2R$$

$$R - 0.2 R = 0.8 R = £10,000$$

Therefore, $R = £12,500$

Thus, if the rate of LVT was 20 per cent, a site with a market rental value of £10,000, would have a total value in rental terms of £12,500 (R), and the amount going to the community in the form of LVT would be £2,500 (0.2R).

The total capital value of the site can be obtained simply by dividing the total rental value of £12,500 by the discount rate. Thus, if the discount rate was 10 per cent, the total capital value would be £125,000 (£12,500 divided by the discount rate of 0.1).

(The same result can be obtained by performing a similar calculation using only capital values. Thus, the total value of a site would be its market value as determined by valuers, plus the amount of LVT going to the community expressed in capital terms, which would be the LVT paid annually divided by the discount rate. Let the total capital value of the site be C . If the rate of LVT is 2 per cent in capital terms, and assuming a discount rate of 10 per cent, the total capital value, C , of a site with a market value of £100,000 would be $£100,000 + (0.02 \div 0.1)C$, so that C will be £125,000, the same result as before. And the amount of LVT going to the community would be 2 per cent of £125,000, or £2,500 a year – again, the same result as before.)

All these calculations are, of course, somewhat theoretical. Their purpose was to explain why LVT will tend to lower the market value of land, the more so as the rate of LVT is raised, and to show why it will not affect the total value of land, including the amount going to the community in the form of LVT. In addition, the calculations showed how one can calculate the total value of a site either in capital terms or rental terms for a given rate of LVT. Another purpose of the calculations was to address an issue that has caused some confusion, which is the implication that if the LVT was levied at a very high rate (as would be the case if LVT was extended to replace other taxes to an increasing extent, thus to realise fully its economic benefits), it would lead to the declining value of land, and therefore declining revenues from LVT. In fact, as shown, other things being equal, only the market value of land would decline, not its total value, and the revenue from LVT at a given rate based on the total value of land would not decline at all.

In practice, tax-raising authorities will not be particularly concerned about the rate of LVT, whether in rental terms or capital terms, or whether it was based on market values or total values. They will only be interested in the amount of revenue that they can raise from LVT. They would therefore tend to decide first the amount of revenue that they wish to raise, and then set the rate of LVT accordingly, using either rental values or capital values, and either market values or total values, whichever they find the more convenient – and, in any case, as shown above, they can all be converted quite readily one into another using simple mathematics. In general, the most straightforward approach probably would be to start with the market value of a site, that is the price it would fetch if sold, which is a concept that everybody is familiar with, then use that figure to calculate the site's total rental value, and base the rate of LVT in rental terms on that.

The overall impact of LVT on land values

The above calculations were also theoretical in the sense that they disregarded the impact of economic growth on land values and the impact of LVT on economic growth. They will offset the tendency for LVT to lower the market value of land, as will now be explained.

First, the requirement to pay LVT would act as an incentive to invest in various productive activities, including housing, with the aim of making the best use of the land, according to prevailing planning regulations. Such investments would create new job opportunities, and when those employed spent their wages, this would have the effect of increasing the economic demand for goods and services. This, in turn, would stimulate more investment to meet that demand – creating further new job opportunities, and so on.

In other words, LVT would have the effect of boosting economic growth, which would increase the demand for land, and therefore land values and land prices. In short, the net effect of LVT would be to make land prices lower than they otherwise would be, but not necessarily lower in absolute terms.

Furthermore, because land prices would be lower than otherwise, business premises and homes would be more affordable, because they would have to spend less on land, so that more money would be available for spending on investment and on consumption. This would increase economic growth, and therefore raise land values all the more. On top of that, rising land values would yield more revenue from LVT, which would mean that other taxes that have an adverse impact on the economy could be reduced. This would give a further boost to economic growth and land values. All of these factors would be enhanced as the rate of LVT was raised.

As discussed Section 3, this positive effect of LVT on economic activity and on land values was precisely the experience of Harrisburg when the rate of tax on land values was raised, and that on buildings reduced.

To sum up, following the introduction of LVT, it is possible that in the short run, the market value of land, in other words, land prices, will tend to fall. This would be less likely if, initially, LVT merely replaced existing property taxes (see Section 9) – though if many landowners, sitting on unused or underutilised

land, or on sites with empty buildings, when faced with having to pay LVT, chose to sell their land, in effect, increasing its supply, this could still cause land prices to fall in some localities. However, in the long run, the tendency for LVT to push down the market value of land, as LVT was extended, would be offset by the extent to which LVT boosts economic growth, and therefore land values.

In other words, the net effect of LVT, other things being equal, would be to make land prices and property prices lower than they otherwise would be, but not lower in absolute terms. Prices would merely stop rising, or not rise to the same extent, as they would have done.

On the other hand, if, there were an economic downturn, for whatever reason, that coincided with the introduction of LVT, this would likely result in lower property prices. This would cause the demand for land and property, and therefore land values to fall. It would not be because of LVT.

In short, the overall effect of LVT would be to make land and property prices more stable, especially as it would more or less eliminate speculation in land. In particular, as discussed more fully in Appendix 2, LVT would help prevent the formation of property price bubbles (actually, land price bubbles), which not only distort investment and the whole process of economic development generally, but cause considerable havoc, including the destruction of value and capital, when they collapse.