

Land is central to understanding the triple crisis

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“Land, labour and capital” emerged as the three factors of production in classical economics, after it began to de-emphasise the central role of classes in the economy. The first of these has tended to become neglected in core theory. This is partly because a wide variety of perspectives implicitly take manufacturing as the paradigm activity, despite its decreasing size in the developed world. The economy then comes to be seen as composed primarily of labour and capital, along with their quality (manifest respectively as human capital and technology). The importance of land is analysed only in specific sub-disciplines concerned with real estate or with primary products (“commodities”), or in environmental economics.

Thus, standard growth models operate with production functions that include only labour and capital, as quantity and as quality. And less formally, discussions of the relationship between technology, employment and economic wellbeing take place as if industry were representative of all economic life. No less a person than Keynes envisaged a future of abundance in which the working week would be reduced to fifteen hours a week.ⁱ Writing in 1930, he extrapolated the transformation of the economy since 1700, the result of technical innovation and capital accumulation as he saw it (or to science and compound interest), to 2030. This essay is penetrating and perceptive, but implicitly analyses the whole economy as if it were dynamic in the same sense as manufacturing.

This paper argues that in contrast, land remains important within the economy, and that its role is tending to increase. In this context, “land” has two major components: (a) natural resources, whether living or inert, that originate from the ground, including food and fuel as well as industrial raw materials such as copper – I will refer to these as “primary products”; and (b) real estate, both domestic and commercial, in which location plays a central role.

Earlier views on the economic importance of land

The classical trinity of land, labour and capital belonged to an era in which land was still a major source of economic value, as well as of power and social standing. The aristocratic class was still important, at least in Europe. This is no longer the case, and even the largest of rural estates cannot be regarded as central to the modern economy, even if they may on occasion be a source of great wealth for their owners.

Land played a leading role in the views of Henry George, the 19th century American political economist. He observed that with population growth, or increasing density of population locally, price of land would rise, so that “the men who work it must pay more for the privilege”. He observed that the poor in New York City were far worse off than in California, which at that time was in the early stages of development, and attributed this to the higher price of land. Furthermore, the construction of railroads in California was increasing land values and rents as fast as or faster than wages were rising. He concluded that a sizeable portion of the wealth created by social and

technological advances comes to be possessed by land owners, and by monopolists via economic rents, and that this concentration of unearned wealth is the main cause of poverty. He proposed that taxes on productive activity should be replaced by a land tax, which would discourage land speculation, and would also incentivise development, as landlords would not suffer tax penalties for any industry or edifice constructed on their land.ⁱⁱ His views were quite influential in the short term, including on the Chinese national leader Sun Yat-Sen,^{iii,iv} but are rarely discussed nowadays except by groups with a particular interest in his work.

Different sectors have different dynamics

The key to understanding the importance of land is that different economic sectors behave differently. The starting point for this discussion is an important insight of William Baumol, on the relative trends of what he terms dynamic and non-dynamic sectors,^v although his analysis neglects primary products and real estate. He has pointed out that as the productivity of the general economy increases, certain sectors get left behind. He first applied this idea to the performing arts in 1966, but more recently he has extended it to personal care and such public services as health care and education, and also “legal services, welfare programs for the poor, the postal service, police protection, sanitation, repair services, the performing arts, restaurant services, and many others”. What these have in common is “a handicraft element—that is, a human element not readily replaceable by machines—in their production process”.

It is significant that his characterisation here is negative: that there is something not readily replaceable – one might add, not only by machines but also by other ways of reducing costs. Yet he still treats these activities as the exceptions, the default being the productive sectors such as manufacturing. It would be more convincing if the analysis were founded on the realisation that most economic activity, in all regions of the world and at all times, has been non-dynamic in this sense – *except* for the dynamic sectors in the modern industrial capitalist economy – it is these latter that are the exception, and their characteristic of persistent productivity improvement was unknown before around 1800. Indeed, it has been argued that continuing unit cost reduction has been the primary driver of economic growth in the past two centuries in the now-rich parts of the world, and that this accounts for the uniquely dynamic nature of capitalism.^{vi}

A corollary of this idea is that over a long period, the increasing productivity in Baumol-dynamic sectors means that their labour input decreases relative to their output. As their costs decrease so do their prices, so that they become more affordable, and are therefore likely to increase in quantity; at the same time their share of employment falls. As Baumol says, “Manufacturing, like agriculture, has seen its share of the American labor force decline steadily and dramatically, from almost 30 percent in 1959 to less than 10 percent in 2007”, and this is not just due to the export of jobs. In these sectors, along with this fall in employment, purchases of the products would also fall as a proportion of household spending because their prices have decreased, while the volume of the product increases. In the case of manufactures, it would mean an abundance of “stuff”. However, the dynamic sectors include some services too, for example the trajectory of the retail sector has been quite similar to that of manufacturing.^{vii}

The mirror image of this picture in the dynamic sector is that the other sectors are not subject to major changes in productivity; their unit costs do not systematically fall over time. These non-dynamic sectors include not only Baumol's list as quoted above, but also primary products and real estate. As a proportion of household spending, i.e. with a denominator that (still) includes a large share of manufactured goods, one would expect to find that *expenditure on these aspects of land has increased relative to the value that the household receives from them*. For example, this could happen when children have smaller houses than their parents, or live in less desirable areas, even when their overall living standards are similar (a difference that may however become eroded due to the influence of inherited wealth).

Evidence on the relative movement of different sectors

Superficially, the available evidence for the United States supports this view, that land is increasing in economic importance relative to manufactured goods. US households doubled the proportion of their expenditure on housing between 1919 and 1998.^{viii} However, it is difficult to compare the share of different components in household budgets over time, e.g. because of changes in quantity and quality. The findings could reflect an increase in housing units, and/or more pleasant locations, as well as rising real estate prices.

One can however examine price trends in each type of market separately. It is clear that the price of manufactured items has fallen over the course of the 20th century, if measured in terms of minutes of work time.^{ix} The extent of the decrease obviously varies from item to item, but is typically several-fold – far more for new products such as flights or soft contact lenses; high-tech products such as long-distance phone calls and computing power have had especially large declines. Food has also fallen in price, reflecting the massive changes in capitalist agriculture. On the other hand, there is no consistent change in the price of women's haircuts, i.e. one-to-one care activities do not fall within the Baumol-dynamic category. And housing has also not changed once adjustment is made for higher floor area and higher wages.

Various different forces affect primary-product ("commodity") prices. With some there may be periods when their prices fall, e.g. with the introduction of new productive methods such as mechanising the food system in the mid-20th century, which has been Baumol-dynamic. In general, however, and over the long term, their importance to household budgets tends to increase relative to the products of dynamic sectors such as manufacturing. Primary products that are industrial inputs, such as copper, tend to rise at times of expansion of the industries that use them, as has been seen during the recent decades of huge-scale Chinese manufacturing. Another reason for fluctuating prices is that the adjustment of many of these industries is slow, so that a demand shock takes years to affect supply. This is balancing (negative) feedback with delay, which is well known to produce oscillatory behaviour.^x Long-term trends also occur e.g. due to Engel effects, because relatively inelastic items such as food become less dominant as prosperity increases. Scarcity can also increase in the long term, as has occurred with many types of fish, and may now be beginning to happen with food and fuel.

In the case of housing costs, the level and secular trends are set by the balance of supply and demand, as in all markets. But in addition, prices are likely to rise relative to the products of dynamic sectors. And like primary products, they are subject to instability due to balancing feedback with delay due to slow adjustment, e.g. long construction time.^{xi} Moreover, real estate is especially prone to bubbles – reinforcing (positive) feedback superimposed on the oscillating pattern of balancing feedback with delay – a self-fulfilling prophecy due to trend extrapolation, and buying for resale not for use, reinforced by its intimate relationship with finance, which becomes super-available in an upswing thereby fuelling the upward movement.

Land and the triple crisis

Land is a prime source of instability and household debt, especially real estate via its prominence in household budgets at lower income levels, and its extreme proneness to bubbles, as has been seen recently not only in the US subprime crisis but also in e.g. Spain and Ireland. Even in the absence of a bubble, the prices of housing and of primary products tend to fluctuate greatly due to the delay in their adjustment process. The primary products that have the highest salience in household budgets are food and fuel, and it may be that both are now at the beginning of a secular price rise. In contrast, manufactured goods, and also services that are non-dynamic (in Baumol's sense), are not volatile in their price level, have only a minor association with debt, and rarely give rise to bubbles. The reason is that their prices have a well-established relationship with unit costs: over time, competition bids the price down, with the lower limit being the unit cost. This lower limit is never quite reached – there is a strictly positive mark-up that keeps the firm solvent, and depends on the intensity of competition. An exception here is that new products may have volatile prices or show bubble-like behaviour (17th-century tulips; the latest iPhone), because they have not yet had the time to “evolve” this relationship of price with unit costs.

The high proportion of household spending that goes on housing, food and fuel – especially for those on lower incomes – means that these land-based items play a large role in inequality. Real estate is particularly relevant to inequality, not only in relation to the distribution of the size and quality of dwellings, but also because location is closely related to wealth and income level. Robert Frank has emphasised how the importance of location, notably the proximity of good schools, has broad implications for the economy more generally, as people have to engage in an arms race so as to earn as much as they can, in order to afford a relatively good location.^{xii} Such spatial inequality of wealth is a major feature of western capitalist societies – but it is notable that the phenomenally successful reforms in Taiwan in the 1950s were preceded by an egalitarian land reform, partly influenced by American advisors but also following in the tradition set by Sun Yat-sen. The relatively egalitarian course of its subsequent rapid economic growth has been attributed to this.^{xiii}

Poverty in the absolute sense, rather than relative inequality, is also closely related to land in the sense of primary products and also housing costs. People on a very low income have particular problems in meeting the regular demands of the relatively fixed costs of rent and “bills” (which are largely fuel costs, i.e. electricity and gas), as well as food.

The third element of the triple crisis, the environment, is even more intimately linked with land. The current food system may have delivered cheap food during the 20th century, but this has been at the cost of loss of biodiversity (“green deserts” as a result of intensive production), pollution from fertiliser run-off that leads to toxic algal blooms, deterioration in soil quality, etc, as well as deforestation that has resulted in major greenhouse gas emission as well as having its own direct environmental impacts. Mining too is well known for its adverse environmental impacts. In addition, spatial aspects of land use, especially in large cities, have large environmental impacts, e.g. through motor transport.

Thus, land is central to household debt and financial instability, to inequality and poverty, and to environmental degradation. The triple crisis cannot be understood without bringing it back into the centre of economic analysis.

ⁱ Keynes JM. Economic Possibilities for our Grandchildren (1930). In: *Essays in Persuasion*, New York: W.W.Norton & Co, 1963, pp 358-73.

ⁱⁱ George H. *Progress and poverty*. London: Kegan Paul, Tench & Co, 1879.

ⁱⁱⁱ Trescott PB. Henry George, Sun Yat-sen and China: more than land policy was involved. *American Journal of Economics and Sociology* 1994; 53: 363-75.

^{iv} Gregor AJ, Chang MH. *Ideology and development: Sun Yat-sen and the economic history of Taiwan*. Berkeley: Institute of East Asian Studies, China Research Monograph #23, 1981.

^v Baumol WJ. *The cost disease: why computers get cheaper and health care doesn't*. Yale University Press, 2012.

^{vi} Joffe M. The root cause of economic growth under capitalism. *Cambridge Journal of Economics* 2011; 35: 873-96.

^{vii} Joffe, *op cit*.

^{viii} Johnson DS, Rogers JM, Tan L. A century of family budgets in the United States. *Monthly Labor Review* May 2001, <http://www.bls.gov/opub/mlr/2001/05/art3full.pdf>. See especially table 4.

^{ix} Federal Reserve Bank of Dallas. 1997. *Time Well Spent*. Dallas, Federal Reserve Bank of Dallas. <http://www.dallasfed.org/assets/documents/fed/annual/1999/ar97.pdf>.

^x Sterman JD. *Business dynamics*. McGraw-Hill, 2000.

^{xi} Sterman, *op cit*.

^{xii} Frank RH. *The Darwin economy: liberty, competition, and the common good*. Princeton: Princeton University Press, 2011.

^{xiii} Trescott, *op cit*.