Jonathan Haskel and Stian Westlake *Capitalism Without Capital: the Rise of the Intangible Economy* Princeton University Press, 2017 (2nd printing 2018).

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Capitalism Without Capital offers a non-technical, wide-ranging scrutiny of the increasing growth of ephemeral goods and services in the economy. The authors provide a consistent economic explanation for the growth of gigantic firms and conglomerates supplying intangible goods and use this analysis, which is especially appropriate for cultural economics, to analyse the finance of this fast-growing sector. The book was first published in 2017 and has been reviewed elsewhere[1]: to my knowledge, however, it has not been applied specifically to the creative economy and, indeed, there are very few references in it to the subject matter of cultural economics. This review attempts to do that and at the same time, to locate its contribution in a somewhat wider context.

The type of analysis offered in the book – very familiar in our field – is reminiscent of two previous books, Shapiro and Varian's *Information Rules* and Caves' *Creative Industries*, which have become standard references in cultural economics. Those books also offered accessible applications of industrial organisation that connected students of cultural economics to the developments in the wider economy. Twenty years on, they are still relevant despite the huge growth of the 'information' or 'knowledge' economy. *Capitalism Without Capital* similarly draws out the implications of the intangible economy for the often staggering growth of both the firms supplying these intangible goods and for many aspects of policy, ranging from access and accountability to accountancy, innovation and the measurement of economic growth to the enhanced role of public finance.

Part I of the book deals with the rise of the intangible economy and Part II with its consequences. Chapter 1 is the Introduction and Chapters 2, 3 and 4 are respectively on the 'vanishing' role of tangible capital, the measurement of intangible investment and the 'Four 'S's' of intangibles, namely sunkenness, scalability, spillovers and synergies. Part II has chapters on Intangibles, Investment Productivity and Secular Stagnation (ch. 5), Intangibles and Inequality (ch.6), Infrastructure (ch.7), Finance (ch.8), Competition, management and investment (ch.9), Intangibles and Public Policy (ch.10) and chapter 11 winds up.

To understand the specific motivation for the book a word on the authors is helpful. Jonathan Haskel is Professor of Economics at Imperial College London's Business School where he works on productivity, innovation, intangible investment and growth in software, R&D and new business processes, their contribution to economic growth and public policy implications for science policy. Stian Westlake is director of the Policy and Research team at NESTA, the UK's national foundation for innovation; he has researched the measurement of innovation and its effects on productivity, the role of high-growth businesses in the economy, financial innovation, and how government policy should respond to technological change. He is an adviser to the UK's Minister for Science, Innovation and Universities.

The nub of the book is the implications of the 4 'S's', which seem to apply particularly in the cultural sector and I interpret them in that context (rather than in the one presented in the book, which is for the finance of intangibles in general).

[1] Including an early one by Tyler Cowen:
https://marginalrevolution.com/marginalrevolution/2017/09/intangible-investment-monopoly-profits.html

Sunkenness. Starting with the initial creation of a work by someone we might call an artist, investment of time and human capital (rarely mentioned in this book, incidentally) is sunk in the sense used here: it is intangible and cannot be amortised as the basis for securing outside financial investment as can tangible capital equipment.[2] Further along the chain of production, the purchase or licence of such a work as an input (a book, film, song, etc.) and its development by an intermediary is often also sunk and, as argued by Caves, protecting sunk investment determines industrial structure. By definition, sunk capital is not capable of being used by other enterprises and therefore is a poor basis for equity finance, whereby the investor acquires a share of the assets (an exception, noted by Haskel and Westlake, is Bowie Bonds, which in the end, turned out to be a fairly good deal: see www.investopedia.com/terms/b/bowie-bond.asp).

Spillovers. Tangible spillovers are very familiar in the cultural sector in relation to the presence of arts organisations but here they refer to intangible effects such as ideas or the creation of a vibrant scene (for example, as generated in a creative hub or cultural district). Being intangible, they cannot be measured as assets or income allocated to the producer in accounting terms and, though productive, they are 'lost' to the measurement of productivity and economic growth in the National Income Accounts. Some intangible spillovers may be captured by internalising them within the firm, however.

Scalability. While the basis of neoclassical theory of the firm (and much else that depends on it, such as welfare economics) is the idea of eventually diminishing returns to scale, that is not a feature of the intangible economy. Indeed the opposite – ever increasing returns from the production of one work – has become an integral part of the knowledge economy, in effect turning many goods into public goods. Put this way, one can again see salience with the basic tenets of cultural economics.

Synergies. Synergies are complementary effects that are often unpredictable and serendipitous but may also be jointly supplied in a planned manner (as in the iPod and licensed music). They also stimulate growth through other producers who take up ideas and examples.

The book considers the effect of these concepts on standard processes, such as investment decisions at the micro level and, at the macro level, the measurement of this new economy. For the former, the inability to monetise synergies and spillovers and the absence of tangible capital for equity finance results in under-investment by the private sector and so (again familiar to cultural economists) makes the case for public finance of R&D and scientific research; for the latter, new conventions of national income accounting are required, a topic with which Haskel has been engaged for some time (more on this point below). While sunk investment may be protected by intellectual property (IP), mostly patents in this book, IP cannot protect against others benefitting from spillovers and synergies; in the case of a patent, disclosure can stimulate innovation during its time-limited life and copyright, which unlike patents does not protect ideas only direct copying, can easily generate external effects.

It would not be correct to see these effects as externalities in the sense of standard welfare economics, however. There is interaction between these 'S's' in ways that have not seemed possible in the tangible economy. It is true that in cultural economics economic impact studies have made much of the benefits of spillovers to the local economy and that public goods and external benefits of consumption are seen as the basis for public support, but their direct interaction (as contrasted to indirect linkages via the tax system) have not. Some organisations, especially the larger ones, may be

[2] This is a string on which I have harped quite a long time! Human capital is necessarily tied to the human being and therefore not for sale – that much is obvious. However, any experience, whether artistic or commercial, increases human capital so that the 'owner' benefits and may also pass on her experience. Human capital can be transformed into a tradeable asset independent of the creator if embodied in a patent or copyright.

in a position to capture spillovers and synergies, but we do not expect nor advocate that the National Theatre owns its own hotel (like the Disney Corporation, for instance) and, though it does have shops, restaurants and bars, they have not been seen as integral to its finances. These, though, are ways in which external effects can be internalised – and that is precisely what is happening in the intangible world of the creative industries, at least in the distribution of creative intangible goods that are now, of course, often licensed services. The implications for industrial organisation is that the larger the scale of the enterprise, the better position it is in to internalise these 'S's' and that is what we observe in the creative industries – in the FAANG (Facebook, Amazon, Apple, Netflix and Google) and in China BAT (Baidu, Alibaba and Tencent) internet conglomerates. They follow the logic of platform economics: the bigger they are the more able they are to grow. They can buy up others' ideas and internalise their own and they can internally subsidise the exploitation of spillovers and synergies via multi-sided markets, something smaller firms are less able to do.

Measuring national income is not a topic that excites many. Nevertheless, a great deal of national policy, economic and social, rests on its being done appropriately. Much is made of the contribution to national income of the creative industries and their potential for growth as it is also made for R&D and technological progress, the latter emphasised by Haskel and Westlake. Indeed, in chapter 6 they argue that the growth of the intangible economy is leading to greater income inequality, thereby stimulating populism in developed countries. Elsewhere Haskel and Westlake have worked on national income statistics: they were part of a team that jointly won the Indigo Prize, a new economics prize that challenges entrants to consider how to measure economic activity in a 21st century economy.[3]

Capitalism Without Capital forms part of the response of economists to the impact of the internet and its associated changes to production, consumption and pricing. The ramifications of the economy of intangibles are clearly and simply expounded in this book, yet many facets of it challenge established economic thought and its applications. We are living through an economic paradigm change and this book provides an accessible guide to it that I strongly recommend.

[3] Joint winners were Diane Coyle and Benjamin Mitra-Kahn. Both essays are available on http://global-perspectives.org.uk/indigo-prize/indigo-prize-winners-2017/h
In their winning essay, Haskel and Westlake identify two major challenges: frequently changing technological features that improve quality, and the presence of free goods. They also discuss including measures of other non-traded goods, such as wellbeing and security. Coyle and Mitra-Kahn suggest a balance sheet approach that measures access to the mixture of physical assets, natural capital, human capital, intellectual property, social and institutional capital, and net financial capital - key elements of economic welfare for which prices are not an indicator.