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Flaunt the imperfections: Information, entanglements and the regulation of London's Alternative Investment Market

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Abstract

The literature on financial market design is predicated on the efficient market hypothesis (EMH), advocating transparency, liquidity and universal information with a view to capturing efficient prices. We provide a counterfactual: the 1995 formation of AIM, the London Stock Exchange's junior market. AIM employs an alternative mode of market organization based on market *imperfections*. Our empirical study shows how AIM draws on reputation, social relationships and practitioner knowledge to organize market governance. We argue that the market's design should be understood as capable of producing informationally efficient prices. We characterize AIM as having a 'Whitean' structure, compared

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with the ‘Fama’ structure of main markets. We conclude that the ‘Whitean’ producer market is a viable design option for financial markets.

Keywords: market design; efficient market hypothesis (EMH); Fama; Harrison White; Alternative Investment Market (AIM); market imperfections.

1. Introduction

From its inception, the science and technology studies inflected analysis of markets – the study of ‘marketization’ (Çalışkan & Callon, 2010), the ‘new, new economic sociology’ (McFall & Ossandón, 2014), or simply ‘market studies’ (Roscoe & Loza, 2019) – has emphasized the performative construction of dispassionate, economized market relationships as a precondition for economic transaction, a process of ‘framing and disentangling’ (Callon, 1998) epitomized by the transformation of the strawberry market of Fontaines-en-Sologne (Garcia-Parpet, 2007). More recently, however, scholars have turned their attention to the role of entanglements in organizing market transactions (Deville, 2012; McFall *et al.*, 2017). They see consumption and production sitting in a dialectical relation, bound by material and affective attachments, where market designers (and marketers) work to create new entanglements: social, technical, emotional, legal, sentimental and practical. Within the context of finance, the theoretical domain of the ‘social studies of finance’ (MacKenzie, 2009) scholarship has followed a similar trajectory, emphasizing first of all the performative nature of economic thought (MacKenzie, 2006a; MacKenzie & Millo, 2003) and more recently the role of affect and attachment in the mutual construction and qualification of financial services, goods and valuations (Muniesa *et al.*, 2017; Vargha, 2011).

There is an intriguing link between these theoretical positions and the practical problem of organizing financial markets. On the one hand, we see a dominant conception of how financial markets ‘should’ work, a highly performative financial system based upon the eradication of social structures in markets (Castelle *et al.*, 2016; Lee, 2011). We term this organizational conception a ‘Fama’ structure following Fama’s (1970, 1991) ‘efficient market hypothesis’. On the other, we see the emergence of different mechanisms of organizing financial markets, following the structures established in producer markets. We term these a ‘Whitean’ structure after White’s (1981, 2002) account of the organization of markets by reflexively aware participants. Both mechanisms pursue informational efficiency as a dominant design parameter: by informational efficiency, we mean that market participants can rely upon available information as a reasonable approximation of the state of investee companies, and that this is reflected in prices, an admittedly pragmatic definition. While the former arrangement – the Fama structure and variations – have been extensively theorized (see the contributions in Knorr Cetina & Preda, 2012), the latter has received much less attention. The omission is all the more striking for, as Castelle *et al.* (2016, p. 169) note, ‘the exchange is a site which has aspects of both fixed-role markets – i.e. multiple exchanges may

compete to provide trading services for brokers and dealers – and switch-role markets: i.e. the familiar, furious “trading floor”-style buying and selling of shares’. Exchanges exist as rivals *in* a Whitean market for the provision *of* Fama markets. The proliferation of the ‘Fama’ model in a product market for financial services suggests that it appeals as part of the business proposition of main board exchanges. This begs a question: would a more ‘Fama’ exchange outcompete a less ‘Fama’ exchange, in the sense of attracting more and higher quality investors and firms? We suggest that this may not be the case.

We illustrate our claim with an empirical analysis of the organization of the Alternative Investment Market (AIM) the London Stock Exchange’s (LSE) second market, founded in 1995 as a venue for higher-risk, smaller or growing businesses. We show how attachments – social bonds, reputation and esteem – have been fashioned into the regulatory backbone of a new genre of financial market that flourished internationally in the first decade of the new millennium (Mallin & Ow-Yong, 2013; Mendoza, 2008; Posner, 2009). We argue that AIM’s structure offers an effective mechanism for an informationally efficient market. In doing so, we offer an account of the importance of imperfections in market design as generative, rather than problematic, mechanisms.

1.1. *Two visions of market governance at the London Stock Exchange*

The LSE’s main market, the ‘Official List’, is able to trace its history back to the seventeenth century. Listing requirements are strict, and the LSE itself is responsible for the quality of new arrivals and the maintenance of a fair, informationally efficient market for securities. It does this using a mixture of external (national and trans-national) regulation and internal (private) regulation in pursuit of a ‘Fama’ structure. In regulatory terms, an extensive framework operating under the Financial Conduct Authority, the Prudential Regulatory Authority and the LSE’s own rulebook, is organized around certain key principles, notably transparent dealing and settlement, investor protection and competitive trading practices (Lee, 2011; Sanusi, 2018). This is underpinned by a principle of equal access to information – at least for those who pay appropriate fees (Davis, 2006; Sanusi, 2018). Full disclosure of trading information is mandated by the Exchange, and is provided by proprietary technological systems (Sanusi, 2018). In theoretical terms, as Lee (2011) notes, the provision of competitive trading, clearing and settlement services should obviate the need for regulatory intervention in market infrastructures to promote efficiency. Fama-style organization is hardwired into the material structures of the Exchange: electronic networks disseminate prices instantly and on a continuous basis, while electronic order books, a fixture of the main market since the late 1990s, automate a continuous auction among anonymous participants (Pardo-Guerra, 2019).

AIM, on the other hand, enjoys lighter listing requirements, and is governed by a system of private regulation, with supervision delegated to Nominated Advisors or Nomads. Finance scholars disagree as to the effectiveness of this

structure. Hornock's (2015) survey of the literature finds wide ranging estimates of underperformance (for example 28.6 per cent to 33.5 per cent over two years) and a strong association between capital raising and poor performance. As he notes, this is problematic for retail investors who are often only able to buy into AIM firms at IPO; Gerakos *et al.* (2013) also find that unsophisticated retail investors are particularly exposed to poor performance. These effects are felt even in the strongest sectors: during the property boom from 2005 to 2015, AIM listed property stocks underperformed their counterparts on the Official List (Newell & Marzuki, 2018).

There is also widespread consensus that far fewer firms move to the main market than one might expect, particularly in view of the stated purpose of AIM as a nursery for growing companies (Jenkinson & Ramadorai, 2013; Revest & Sapio, 2016b). Jenkinson and Ramadorai (2013) found that over the period 1996–2006 only 56 of approximately 1,600 firms made the move upwards, less than a quarter of the number moving from the main market to AIM. In fact, traffic flowed in the other direction: 'upward' movement decreased across the period whereas 'downward' movement increased. Importantly, moving 'down' to AIM does not lead to a long term decrease in shareholder returns, as might be expected if poor performance was the cause of the move. Jenkinson and Ramadorai explain this in terms of the different regulatory costs of the two markets as the trading technology and the framework of UK law are the same for both. They speculate that firms may have different regulatory preferences, based on costs.

From the perspective of issue numbers and capital raised, however, AIM has been a great success: the market has hosted a total of 3,929 companies, raising £124 billion.¹ Nielsson (2013, p. 336) proposes that high quality firms may choose to list in less regulated markets, and that a network of analysts, institutional investors, auditors, investment banks and the media may provide an 'alternative bonding device' to legal regulation. Vismara *et al.* (2012) highlight the ability of companies listing on these markets to raise capital through IPO and to do so again through secondary or 'seasoned' offerings; AIM has contributed to the creation of new firms, particularly in sectors where larger sums of capital have already been raised (Revest & Sapio, 2016a). AIM 'allows small companies to gradually mature in a public market environment' until they are ready to move to a full listing (Hornock, 2015, p. 347), and provides a showroom for entrepreneurs wishing to sell their companies (Revest & Sapio, 2016b). 'AIM', writes Mendoza (2008, p. 287) succeeds because it 'supplies a scarce product to the marketplace: rapid, low-cost access to public equity for small firms with high growth potential'. It answers an ongoing problem where financial regulators adopt a one size fits all strategy that imposes excessive costs on many market participants (Piotroski, 2013, p. 216). Stringham and Chen (2012, p. 42) conclude that 'AIM's system shows flexible private regulation can serve firms and investors better than bureaucratic government regulation... Private regulators have an entirely different set of knowledge and incentives from those of government bureaucrats'.

These more positive accounts anticipate the claims of our sociological perspective. As informational efficiency emerges as the dominant design principle

for financial markets, we show how the market's structure draws on social relationships and practitioner knowledge to achieve this. Design choices were shaped by existing market relationships and practices as well as the institution's strategic commitments and organizational path dependencies. In practical terms, the market's regulation would seem fit-for-purpose; in theoretical terms, we suggest AIM's 'Whitean' structure provides a counterfactual to the Fama market found on main-board exchanges.

The structure of the paper is as follows. In the next section, we examine the link between economic theory and the design of financial markets, with particular reference to market 'efficiency'. We then turn in Section 3 to the analysis of social structure within financial markets and the relationship between social structure and informational efficiency. Section 4 outlines methods. Section 5 presents the empirical data on the AIM market. Section 6 discusses, while section 7 offers concluding thoughts on implications and wider issues.

2. Economic theory and financial markets

When Ronald Coase (1988) described financial markets as examples of perfect competition he was describing the views of the economics profession, rather than the practice of markets. Paradoxically, as Coase also points out, the conditions of a perfect market require an authority structure to secure the market 'involving an intricate system of rules and regulations' to prevent malfeasance (Coase, 1988, p. 9). As many researchers in the sociology of finance tradition have noted, financial markets are deliberately designed structures (e.g. MacKenzie, 2009); the additional insight available from the Coase approach is that, once designed, these 'market wrapped in a hierarchy' devices must be regulated and maintained in order to avoid the emergence of market imperfections.

Since Coase (1988) wrote, the number of financial exchanges has expanded substantially. There has been a growth in geographical coverage (Weber *et al.*, 2009), and in specialization (for example, carbon futures exchanges). The vast majority of exchanges are *firms*, either publicly quoted – for example the London Stock Exchange is a firm whose stock is traded on the London main market – or privately owned (MacKenzie, 2017). It is now possible to speak of an exchange 'industry' in which competition, collaboration and mergers occur, a position underscored by the European 'MiFID' regulation, with its intention to create a market in markets (Lenglet & Mol, 2016). Empirically, Coase's 'market in a hierarchy' description has been robust at an industry level.

Exchanges exist to bring together investors in and sellers of securities – for example firms in equity markets and governments in bond markets. They do so by building platforms that minimize the transaction costs of trades, maximize trading completion speeds and generate pools of liquidity so that trading can be continuous. There are huge network effects and exchanges seek to maximize order flow. Competition between exchanges may be on cost and speed, but

also by differentiation, perhaps by specialization on specific securities, or by ease of listing. Revenues consist of fees for transactions clearing and settlement, membership fees for firms to be listed and, most importantly, charges for quote and price information (Lee, 1998). However, such information is not costless to produce, so the business models of financial market exchanges require that access to price information be restricted to a set of identified actors (Lee, 1998, pp. 46–67). There arises, therefore, a necessary tension between the commercial concerns of financial exchanges and the principles of perfect market organization on which they are based, namely anonymity, continuous auctions, homogeneous and standardized commodities, liquidity and effective enforcement (Garcia-Parpet, 2007). For financial markets, the core issue is price information, and the key theorists are Walras and Fama.

Walras provides the theoretical account underpinning notions ‘informational efficiency’ in markets. He proposed the existence of a notional auctioneer in a market who conducts continuous auctions around the price of commodities, adjusting the price to supply and demand (see Lee, 1998, pp. 216–217). Under Walrasian assumptions, there exists a unique market clearing price for each commodity and the price contains all relevant information such that agents in the market do not need to engage in costly search about either the underlying value of the commodity or the actions of other market participants. This Walrasian approach has been adapted by Fama (1970, 1991) to financial markets in the ‘efficient markets hypothesis’ (EMH). For Fama, a market is efficient where prices fully and instantaneously reflect all available relevant information about a security.² With such informational efficiency, prices thus become the key signals in capital allocation decisions so that informational efficiency yields allocative efficiency. Individual agents trade to maximize profits so, for example, if they have private positive information about a security, they will buy it and the private information becomes public by showing up in the price. Given that the current price should be the best estimate of the future price, prices in an efficient market should follow a random walk as unpredictable new information – a hot summer, perhaps, or a pandemic – influences prices. As Lee puts it:

Fama’s notion of efficient markets has come to underpin much regulation concerning the dissemination of price and quote information in financial markets ... Without the publication of prices and quotes ... market participants will not have sufficient information to be adequately informed, that the prices of assets traded in the market will therefore not be informationally efficient and that allocative efficiency will therefore not obtain. (1998, p. 222)

From this understanding, paired with an underlying assumption of atomistic, profit maximizing, non-colluding individual market participants, emerge design parameters for an exchange requiring that all agents in the market have the information necessary to trade both costlessly and immediately. These non-colluding market participants cannot be taken for granted, and

market design also mandates perfect competition, such that multiple sellers cannot fix prices. This dominant understanding of the ‘perfect market’ is highly performative and has been played out in the social and technological transformations of ‘main board’ exchanges since the 1980s (Castelle *et al.*, 2016); the regulatory and technological organization of the LSE’s Official List has been shaped accordingly (Pardo-Guerra, 2019; Sanusi, 2018) since London’s own ‘Big Bang’ of 1986 (Clemons & Weber, 1990).

3. Social structure and efficiency

The most general points to make about the economic approach to financial markets are as follows. The Coaseian idea of a financial market as a perfect ‘market wrapped in a hierarchy’ rests on the strong assumption that the two forms of social structure can be kept separate. As Lee notes above, the hypothesis has been extremely influential in its impact on the design and regulation of exchanges. The interplay of social structure and regulatory form may here be characterized by the Granovetterian position, where markets are constructed as efficient and social structures emerge within them as mechanisms to protect individual market agents from downside risk or unexpected volatility. If social structures emerge in efficient markets they are likely to act in favour of market participants and against broader welfare issues (cf. Lee, 2011). Such structures will be diagnosed as imperfections to be regulated away. This logic characterizes Fama designed markets, including the LSE main market – indeed, Davis’s (2006, p. 7) empirical study of price formation on the LSE shows exactly this tension, where ‘market regulations and metrological practices are as likely to develop as a response to actor-driven “cycles of opportunism and restraint” (Abolafia, 1996)’. It implies the primacy of external market regulation as a control mechanism.

Yet the EMH, if taken seriously, presents market operators with an intractable problem. It depends upon the existence of arbitrage, where mis-pricing can be traded away without risk. This could, for example, be a miscalculation of value or an arbitrage based on geographical and temporal difference, the favoured strategy of high-frequency traders. As Zuckerman (2012) argues, this arbitrage is both central to the generation of informational efficiency and yet, by Fama’s own reasoning, highly unlikely. For if prices were informationally efficient, arbitrage would have very low returns to the arbitrageur, and it would be irrational to engage in it. If no market actor participates in arbitrageur activities, however, prices do not reflect value: ‘... if all investors believe in the EMH, the market cannot be efficient’ (Zuckerman, 2012, p. 230, original emphasis). Market efficiency degrades into a collective action problem where, put colloquially, some of the people need to believe in efficient markets all of the time or all of the people some of the time, but not all of the people all of the time. Empirically, Willman *et al.* (2001) and Roscoe (2015) reach similar conclusions, arguing that traders in markets hold contradictory beliefs: that the EMH broadly works but that they can also beat the market. This overconfident

trading on inadequate private information is noise, and efficient markets depend upon it (Black, 1986; Preda, 2017).

In practice, most financial markets solve the arbitrage problem through mechanisms of social structure: by defining a role of ‘market maker’ who performs the arbitrage role of buying when there is excess supply and selling when there is excess demand, transacting against the market. Willman *et al.* (2006, p. 1362) point out that sociological research has been successful in theorizing the issue, with explanations centring on the interrelated processes of learning, information search, reciprocity and network building. The most substantial account of these roles is that of Abolafia (1996), but his study resonates with other findings about the working of exchanges in the sociology of finance literature on both open outcry and electronic markets (see for example the collection on pp. 115–223 in Knorr Cetina & Preda, 2012): there appear to be formal and informal controls, conventions and norms and values other than self-interest in most financial markets.

Exchanges themselves have a dual social structure, serving two distinct purposes: as a locus of financial transactions (markets) and as a provider of exchange services (firms). As exchange ‘producers’ they *provide* a switch-role Fama market to buyers and sellers of securities, and *occupy* a fixed-role producer market (Aspers, 2007; Castelle *et al.*, 2016) where the market’s basic organization stems from the producers’ mutual and reflexive awareness of themselves and their rivals. This latter was theorized by Harrison White, for whom ‘knowing oneself, and being known, to be in a given market is the single most important aspect of getting established in business’ (White, 2002, p. 121). For White, social structures emerge or are designed to provide a framework for specific sets of transactions between market participants. They help to organize the market *per se*, rather than subvert its operation; they provide economic benefits to market participants only to the extent that they do not jeopardize or undermine the social structure that constitutes the market.

To recap, economic theory of financial markets positions informational efficiency as the dominant design parameter for financial markets. The problem of noise, as theorized by sociological studies, makes clear that the structure that Fama suggests generates such efficiency – irrational arbitrage in an atomistic market – is neither logically or empirically possible in its pure form. Social structure becomes essential in the maintenance of market function. We may thus examine elements of social structure in terms of whether they facilitate, impede or are neutral with respect to informational efficiency, and more generally, the commercial positioning of exchanges *as firms*, specifically whether a more ‘Fama’ exchange might outcompete a less ‘Fama’ exchange.

4. Methodology

Data were collected as part of a larger project that sought to document, from a sociological perspective, the interconnected history of two stock-markets

founded in London in the mid-1990s. One, AIM, is the subject of this paper. The other, OFEX (latterly PLUS), effectively ceased trading at the time of the financial crisis. Both emerged from the same milieu of regulatory and technological changes, as a result of the same strategic moves by the London Stock Exchange, and through the same social networks. Over a period of 18 months, from 2016 to 2017, the first author conducted 54 interviews with almost all of the major participants in the new markets (39 participants, totalling 73 hours). Many interviews were conducted on a named basis appropriate to the historical nature of the project. Interviewees are listed in Appendix. Interviews followed the pattern of career/life history (Yow, 2005), asking interviewees to recollect their entire careers in the financial sector (often from early apprenticeships on the floor of the old London Stock Exchange from which rich social networks arose). Interview data were supplemented by personal communications and informal conversations as well as textual sources, amounting to over 1,000 pages and included newspaper articles, company documents, prospectuses and annual reports, newsletters and lobbying materials, regulatory disclosures, press releases and marketing materials. Data were compiled into a narrative account of the formation of AIM. We also use previous published and unpublished work on the operation of the AIM market (Yu, 2010). Our data did not show interviewees discussing the merits of Fama versus Whitean markets; these are theoretical categories we have imposed on the analysis. Interviewees discussed emotive and effective notions such as trust, reputation, ‘good companies’ and ‘reliable management’, and relationships built up over decades. Equally, the administration of main board markets is couched in terms of efficiency, transparency and investor protection (cf. Lee, 2011).

5. Analysis: A market built from networks

Our premise is that exchanges must design some kind of governance mechanisms into their organizational structure to avoid malfeasance and promote informational efficiency, and that their choice of mechanism may be governed by the logics of competitive positioning within a market for exchange services. We focus on AIM as a market that has implemented – successfully – a distinctive kind of governance based on social ties. In this, we suggest, it has a Whitean structure rather than the idealized ‘Fama’ structure.

The stated intention of a junior market is to offer listing facilities to younger and smaller companies that could subsequently list on ‘main board’ exchanges. Despite increasing competition among global exchanges, AIM’s champions argue that it has established itself as the world’s leading stock market for companies with high growth potential (Arcot *et al.*, 2007; Hornock, 2015). Figures 1 and 2 show admissions and fundraising data from inception (1995) to the present. They make clear how AIM succeeded in both areas, particularly in the period from the end of the first dot-com boom in 2001 until 2008. The market is now smaller than in 2008, but fundraising activity remains strong.

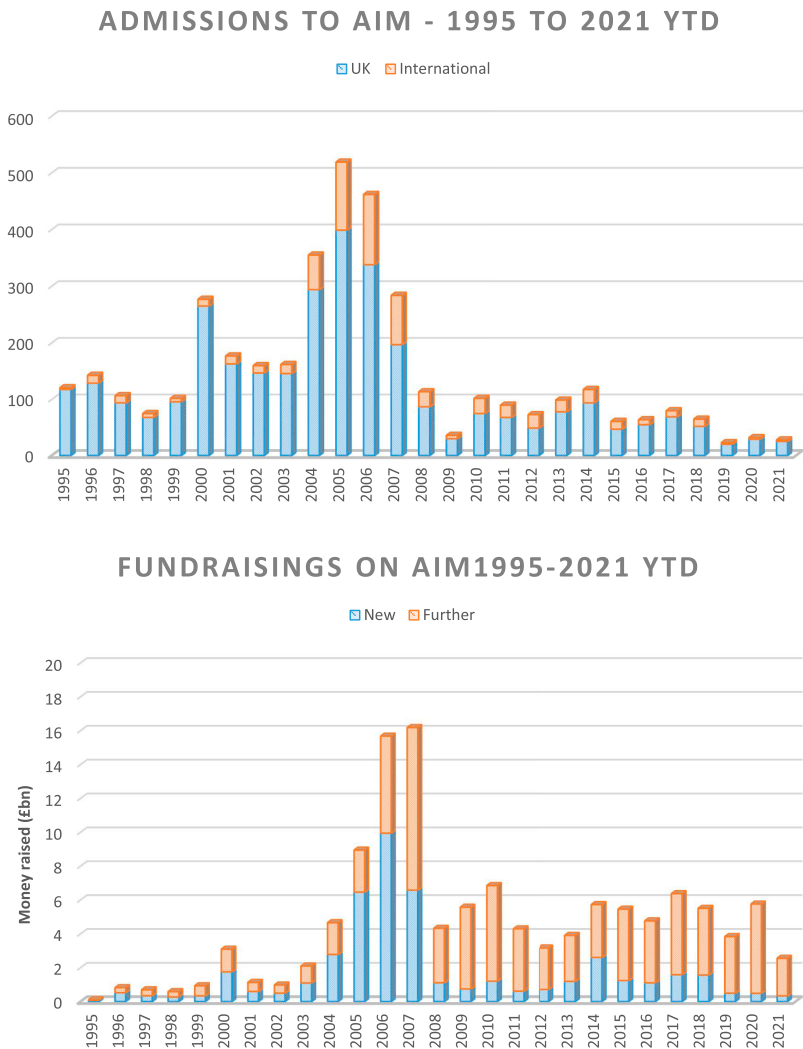


Figure 1 Admission and fundraising activity on the AIM market
Source: LSE.

In 2018, approximately 950 companies were listed, with an average market capitalization of approximately £100 million; by 2021 the concentration of capital had increased, and 822 companies were listed with an aggregate value of £145bn.

AIM has also drawn international attention as an exemplar of market structure. Following the collapse of the dot-com bubble the AIM model gained popularity as growth-company exchanges spread across Europe and beyond (Mendoza, 2008; Posner, 2009). It has been replicated in Italy (AIM Italia) and Japan (Tokyo AIM) (Mallin & Ow-Yong, 2013).

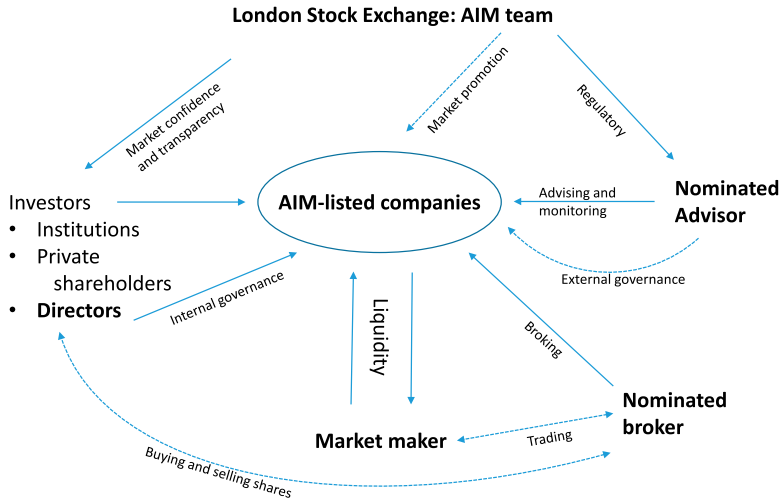


Figure 2 Key participants in the Alternative Investment Market
 Source: Mallin and Ow-Yong (1998).

As our review of the sociological literature made clear, the building of a ‘Fama’ market requires a sustained effort in removing social ties. AIM, on the other hand, made no such endeavour: it was built from social relationships from the outset. It was launched at a difficult moment in the Exchange’s history as the financial community pressured the LSE to rethink its closure of an earlier junior market, the Used Serviceable Material (USM) market. The Exchange’s management sought to placate the community, to position the LSE as a supporter of the nation’s entrepreneurial dynamism, especially in view of dissatisfaction with the role of banks and venture capital houses in funding small firms, and in doing so to make use of networks of regional stockbrokers and exchange members left behind after the closure of the UK’s regional bourses in 1973. It sought also to open the pockets of wealthy investors in Scotland, Northern Ireland and the English regions by offering them a chance to invest in firms based in those regions. Theresa Wallis, the executive placed in charge of developing the market, recalls how the logic of social ties extended to investment in risky ‘growth firms’:

One of the things I heard and learnt when I first came on with the role was ... investors, when it comes to small companies, they’d rather invest close to home where they can go and visit the companies and they look them in the eye and all that sort of thing. (Wallis)

Wallis and her team set up a lengthy consultation with exchange members, issuers, corporate advisors and legal firms, touring the country ‘even up to Inverness’, and talked the market into being (Palo *et al.*, 2018) through the

‘continuous iterative process’ of a consultation that was ‘very diligent and quite pedantic’ (Hughes). The market was designed and constructed through conversations within the community:

You’d be invited round for dinner at Clifford Chance [a legal firm], or something. It was all about the market, getting to understand it, and that engagement. You could tell that the relationship was very close. You could tell that it was understood why it was important ... there was never anyone who was not willing to engage properly. (Hughes)

The market clearly positioned itself against the LSE’s Official List in terms of its listing requirements (these are shown in [Table 1](#)). It filled the space vacated by the USM, designed as a mechanism for younger, smaller, entrepreneurial firms, offering a listing venue for newly formed companies with lower capitalization and free float requirements; as Jenkinson and Ramadorai (2013, p. 860) note, ‘it is literally possible to create a new company and have it trading on AIM within two to three weeks’. A variety of regulatory innovations made this possible. AIM was classified as an ‘exchange-regulated market’ run by the LSE. The nature of an exchange-regulated market allows AIM to waive most of the mandatory provisions contained in European Union Directives as applicable to public listings in the United Kingdom, and permits it a form of self-regulation, which is pivotal to the rise of AIM’s model. An AIM admission does not fall under any regulatory body. There are no specific requirements

Table 1 Listing requirements and obligations, LSE main market and AIM compared

Main market	AIM
<i>Admissions requirements</i>	
Minimum 25 per cent shares in public hands	No minimum public float
Three year trading record	No trading record required
Pre-vetting of admission documents by recognized authority	No pre-vetting of documents
Admission takes several months	Admission can be achieved within two weeks
Minimum capitalization on entry	No minimum capitalization
Sliding scale admission fees up to £142,000	Flat rate admission fee, £4,000
<i>Continuing obligations</i>	
Prior shareholder approval required for substantial acquisitions and disposals	No approval required
Companies subject to extensive continuing obligations by UK Listing Authority	
Sliding scale annual fees up to £20,000	Flat rate annual fee: £4,000
<i>Other costs and benefits</i>	
Fees for subsequent issues	No charge for subsequent issues
	Beneficial tax regime for company owners

Source: Jenkinson and Ramadorai (2013).

regarding minimum company size, track record, number of shares in public hands, or earnings. After admission, the ongoing obligations with which firms must comply are kept at a minimum. AIM companies, for example, do not need to obtain shareholder approval for transactions other than reverse takeovers or fundamental disposals (disposals of more than 75 per cent of assets).

Yet, as we have argued above, a market needs a mechanism to avoid malfeasance and to ensure some kind of informational efficiency. Such light touch requirements were only possible due to the dense social networks and interpersonal-knowledge within London's financial community, which the market's designers co-opted into a new species of private regulator: the Nomad.

5.1. *Nomad-based regulation*

The disclosure and corporate governance provisions for AIM companies follow the UK tradition of principles-based regulation.³ The consultation had initially hoped to avoid the expensive requirement of sponsorship (a corporate advisory firm responsible for vetting the applications to list on the market) and the associated administrative burden on the LSE's own supervisory offices. According to Simon Brickles, one of Wallis' team who subsequently became Head of AIM, a stock exchange 'should be the high temple of capitalism, we should allow as much choice and freedom as compatible with a reasonable level of investor protection'. The consultation settled on a 'disclosure-based' based structure reliant upon the principle of caveat emptor, focusing regulatory efforts around ensuring full disclosure of financial information and assuming that investors have sufficient sophistication to act accordingly. Nonetheless, those involved in the consultation argued that some kind of oversight would be necessary involving quality control outsourced to a network of professional advisers in a structure of private regulation. Figure 2 illustrates the key participants in AIM.

At the forefront of this network are the Nomads, the corporate finance firms bringing issues to market. Listed companies are required to retain a Nomad, and if they are unable to do so will be forced to leave the market. Nomads have an ongoing responsibility to their client firms to provide advice, mandate adequate disclosure and oversee compliance with regulation. Nomads themselves are policed by reputation and a concern for repeat business among clients and investors. AIM is a 'reputational market' (Mendoza, 2008, p. 333) where social relations become the structure underlying informational efficiency. Offenders will be disciplined by public exposure. This is epitomized by the *Telegraph's* conclusion to the story of one market misdemeanour: 'a good public flogging serve[s] to remind brokerage houses to show a little caution in who they bring to market in the first place – and the importance of never, ever misleading investors' (quoted by Stringham & Chen, 2012, p. 42).

The AIM rules legislate for social and reputational entanglements. The Nomad must be independent of the issuer, must be a firm that has practiced corporate finance for at least the previous two years, has acted on at least three relevant transactions during that period, and has employed at least four qualified executives. Qualified executives are full-time employees who have acted in a corporate finance advisory role for at least three years and who have acted as the lead on at least three appropriate capital market transactions in the previous three years. Tim Ward, responsible for drafting the initial specification of the governance role, explains:

The Exchange did not want firms which did not have a reputation to suddenly pop on this market and build their reputation on the back of the market. It was necessary for the firms that were Nominated Advisors to have a reputation that they needed to protect and enhance, rather than one to create. So it was not one for new boys to come in saying we are going to build our business off the back of this ...

Nomads simultaneously play roles as AIM advisors, gatekeepers and regulators. For this reason, some argue that due diligence is at least as burdensome as it is on the main market and more so than in the United States.⁴ Nomad supervision is concentrated, with a small number of firms supervising a large proportion of listed firms. This concentrates reputational capital further: such Nomads tend to be specialized and have high sunk costs in AIM. Nomads' interests are aligned with those of investors by the necessity of future business, dealing with a small number of institutional investors: 'if a firm was to repeatedly bring poor quality companies to the market then they would very quickly find that they could not go back to the institutional investors' (Stuttard). By one investor's wistful analogy, 'AIM is like an exotic garden, which provides the soil, the light and temperature. Companies are young plants with different genes. The Nomad is the gardener, selecting the seeds, fostering their growth, and maintaining the garden'.⁵ Such selection and tending is based on dense market ties and knowledge:

When it came to AIM, there was a network underneath which says, that company, don't touch it. And so an awful lot of this stuff was unwritten, unrecorded, but by and large, one of the reasons why AIM survived better than most was because we did things like that. Can't discuss it publicly, deny all knowledge. (Vardey)

And,

[x] and [x] had a 'cerebral database'. [x] would phone [x] and ask do you know about so-and-so and would get a yes, no, don't touch with a bargepole answer. But you couldn't write any of it down so they called it a cerebral database. (Hocken)

Nomads are liable for improper reporting by their supervised companies, such as misstatements or omissions in an admission document, and subject to lawsuits if investors are misled. The Exchange periodically issues fines in cases where Nomads fail to discharge their responsibilities properly. But these remain rare.⁶ Censure and reputational damage remain the most powerful levers available to the Exchange, operating the ‘tools and instruments of a club’:

the black-balling and ... the censure was the thing, a private censure ... [and] the public censure, which was really only ever used when you were trying to give a signal that somebody was a wrong ‘un. (Brickles)

5.2. *Investor-based regulation*

Although the Nomads carry legal responsibility for supervision, the tight network of institutional investors that operates in the market also assists in information flow. AIM has developed a strong track record in raising money for growing businesses. Roughly 60 per cent of this capital has been raised through secondary, or follow-on issues. AIM has attracted a particularly well-developed base of institutional investors, including Fidelity, Goldman Sachs and UBS, which lead a deep and highly sophisticated pool of institutional capital dedicated to small and mid-cap shares. The market is dominated by institutional investors to a much greater extent than, for example, NASDAQ in the United States (Arcot *et al.*, 2007). Unlike retail investors that trade more frequently for short-term benefits, institutional investors are potentially stable, long-term holders of these shares. Furthermore, with relatively few retail shareholders, most IPOs and secondary offerings on AIM take the form of placings with institutions. A significant number of AIM-listed companies seek to raise additional capital from their existing shareholder base over time and so managers and advisors must act in the expectation that they will return to the same buyer in due course.

The day-to-day work of investors involves meeting with and building relationships with the managers of potential and actual investee firms, who in turn maintain tight links with a small number of investors. One specialist fund manager comments:

I probably see them [investee management] once every six months. But I’ve known them ... I must have known them pretty much for, well 25 years. The chief exec’s been there probably for 15 People ring me up and say, I’ve got a really interesting company I’d love you to see, and I say fine, here’s a spot in the diary. (Williams)

The lack of retail investors means that institutional investors wield a great deal of influence in these book-building negotiations, as another fund manager makes clear:

They [brokers] come and see you and they do a presentation ... and they say, we want 10p and you say, maybe five, eight, two? I've been spoken to by brokers and financial advisers to companies many a time saying, well, if we make it 7p would you do half a million quid or something to which the answer is, no, it's going to be 5p or nothing and I'll do a million quid at 5p or, you know ... I'm not going to pay the wrong price as I see it for a smaller sum of money. It's right or wrong. The sum of money is irrelevant. It's right or wrong. (Buchanan)

As well as a Nomad, issuer firms need to maintain a broker, whose job it is to maintain an orderly market in the stock. Again, this involves building comprehensive relationships with institutional investors, working to develop an ongoing demand for the stock so that, should a large shareholder choose to liquidate a holding, the market remains unscathed:

The market price, the price you see on the screen, is generally set by the retail investor, the balance of buyers and sellers, all these five grands and 10 grands and 20 grands worth of stock. ... so they will interact with our market makers, which will adjust the price depending on the supply and demand in the market. The institutional investors generally stay out of that. They don't deal in small amounts. But if they want to sell a million pounds worth of stock ... I can ring up another institutional investor, and if he agrees to buy it at that price, we match them. So the million pounds worth of stock goes through the market, one's sold, one's bought. But it doesn't change the market price. Someone can come on and buy £10,000 worth and it will put it up, or if they buy or sell, it could put it up or down by five to ten per cent. (Norcross)

This mechanism of direct transfer closely resembles an increasingly common form of transaction that seeks to circumvent the price formation mechanisms of main board markets, the deals between investment banks carried out in 'dark pools' or over electronic networks: large transactions made at the mid-price so as not to disrupt the market (Lagna & Lenglet, 2019; MacKenzie, 2019). It also resembles the organization of markets in art or collectibles, where high profile auctions serve to set and maintain the valuation of artworks in the public sphere, while much trade is done between brokers in private (Coslor, 2016). These ongoing trades can only be made possible by the constant work of the Nomad in maintaining positive relationships and good information flow between investors and firms.

6. Discussion: Fama and White markets

For Coase, the 'market within a hierarchy' constitutes a 'private legal system' and

enforcement of the rules is possible because the opportunity to trade on the exchange is of great value and the withholding of permission to trade is a

sanction sufficiently severe to induce most traders to observe the rules of the exchange. (1988, p. 10)

Our argument is that there may be more than one set of rules of private law that fulfil this necessary condition. Informational efficiency becomes the dominant design principle of the exchange, and exchanges must design some kind of governance mechanisms into their organizational structure to achieve this. As private law may differ, so their choice of mechanism may be governed by the logics of positioning within a market for exchange services. For the most part, as we have seen, exchanges have sought to implement ‘Fama’ market structures, where social structure is seen as an impediment to market function, the Granovetterian position (Preda, 2009); this logic characterizes the LSE main market, and implies the primacy of external market regulation as a control mechanism.

We do not claim here that the LSE’s main board is Fama efficient. We have drawn attention to the empirical improbability of the Fama structure, a situation likely to result in practice in the hybrid described by Abolafia (1996), where regulators and market practitioners conduct an ongoing dialogue between external regulation and the internally generated rules and conventions of the market. Empirical research has indeed shown that the LSE falls some way short of the Fama ideal, with investment activity embedded in dense social networks within a community dominated by a small number of large institutions (Davis, 2006). This picture has been complicated in the last decade by the expansion of automated high-frequency trading (HFT), to the point where the vast majority of equity trading (over 90 per cent globally and by extension on the LSE) is conducted by algorithms (Hayes, 2019). HFT strips out social relations and brings additional complexities of black boxing, organizational ignorance and epistemic difference into play (see Coombs, 2016; Lange, 2016; Lenglet & Mol, 2016; Seyfert, 2016, and other contributions to issue 45 of this journal). Centralized exchange systems can be circumvented by anonymous ‘dark pools’ (Lagna & Lenglet, 2019).

Our point here is that the design of the LSE’s main market, understood both in terms of regulation and this socio-technical structures, is driven by and adheres to Fama principles, an observation borne out by Davis’ (2006) finding that social relationships and regulation are antagonistic in the LSE. Where social networks and norms emerge in such a market, they are to be viewed with suspicion as market imperfections and eradicated. This is the Granovetterian position: social networks emerging to benefit existing market agents. It is beyond the scope of this study to document the extent to which these mechanisms have been successful in removing social networks from the operation of the LSE’s main board. We draw a comparison between the organizational intention of the main board – the pursuit of efficiency through the removal of social content, an ‘abstract transparency’ invoking the neoclassical ideal of the mechanical auctioneer (see Grossman *et al.*, 2006) – and a

regulatory intention in AIM that deliberately invokes social relationships as a means of pursuing informational efficiency.

A second part of our argument is, therefore, that the balance between external regulation and internal self-regulation is an important design choice and source of variation in systems of private law for financial markets. We have shown how AIM established a system of internal private regulation based on pre-existing social structures (an 'equity culture') and how that system is designed to facilitate information flow in an otherwise informationally opaque and often illiquid market. Evidence of stable networks, and thus counterparty identity, are central to AIM. We have shown that social structures were designed into AIM from its very outset, and that its distinctive regulatory identity depends upon relations of interpersonal knowledge, obligation, reputation and other affectual bonds between participants. AIM has been successful in terms of attracting firms and investors; its structure is informationally efficient because AIM is an example of a 'Whitman' producer market.

For White, producer markets are characterized as stable networks of mutually aware actors sending reputationally weighted signals of quality and volume within identifiable market boundaries. Producers

come to treat each other and to be treated by the outside world as structurally equivalent through the evolution of input and output networks of ties Knowing oneself, and being known, to be in a given market is the single most important aspect of getting established in business. (White, 2002, p. 121)

The core 'producers' on AIM are Nomads. White argues (2002, pp. 177–199) that producer markets have 'upstream' and 'downstream' elements. 'Upstream' in AIM is the supply of shares from listed companies and 'downstream' is investor demand for such shares. In a producer market, actors relate to other producers, not simply to their products, since contracts tend to be relational rather than transactional. In AIM, investors tend to rely on the Nomad's reputation, rather than a painstaking analysis of the fundamentals of the Nomad's specific firms; our data show how investors build long-term relationships with Nomads and brokers, both of which are governed by the threat of exclusion from the market in the case of malfeasance. This 'Coasean' sanction has been achieved in a manner quite different from the Fama structure, through an internally generated rather than externally imposed form of regulation. At this point, we can return to our initial, somewhat pragmatic, definition of informational efficiency. We suggest that prices negotiated by crowds of reflexively aware producers (Nomads and institutional investors) are efficient inasmuch as they capture the sum of available information in a market that often lacks liquidity and depth. The Nomad signals listed firm quality and price to investors such that the latter needs no further search to establish a price that is an accurate signal of future

revenue. Where a Fama market seeks to dissolve social bonds, AIM's governance creates and rearranges social, affectual and practical links between reflexively aware producers of investment information.

7. Concluding remarks

What does this mean for the design of markets and the accompanying sociology of heterogeneous market types (Frankel *et al.*, 2019)?

Despite the prevalence of the Fama market as a business offering among main board exchanges, we suggest that there may be alternative social structural options to achieve a given level of informational efficiency, and that that alternative structures may, in fact, be just as successful as the established 'Fama' market. Expectations that AIM would function as a feeder for the main market (Hornock, 2015) have been disappointed, for AIM seems to have been successful on its own terms. The transaction costs of switching from AIM to the Official List are high *and these costs include loss of social capital*. AIM remains a tight network, comprising specialized investors and advisory firms skilled in smaller company work. AIM is viable both as a commercial proposition *in a Whitean market for exchange services* and *as an informationally efficient Whitean market for investors and firms*.

It remains only to look to the future and to challenges that might confront the Whitean model. In emphasizing that financial markets can be understood as systems of emergent social dynamics rather than organized performances of economic theory, we do not suggest that Whitean markets are any less in need of maintenance. On the contrary, the social relations that underpin AIM must be constantly replenished through the socialization of new advisors into the norms of the community. It cannot be expected that this will take place without supervision and it remains the responsibility of the Exchange to reinforce these norms: 'It was always implicit ... we would shoot one [Nomad] a year *pour encourager les autres*' (Vardey). Several interviewees felt that an emphasis on AIM's growth had caused the LSE to stay such executions unnecessarily. More significantly, in AIM's first decades the entanglements of the community flowed from relationships forged on the floor of a pre-digital exchange. By 2021 there are few who remember that era, and a pre-existing tapestry of social relations can no longer be taken for granted. The extent to which AIM remains a 'club' and can be supervised like one is, therefore, open for debate.

It may also be that such Whitean systems reproduce and gloss forms of social closure, and this is worthy of future research. The regulatory emphasis on qualified individuals appears to preclude new entrants, and those not attuned to the habitus of the community may be disbarred. Advisory firms complain that the same rules precipitate conflict between the qualified executives and the firms. If a firm loses its fourth executive it loses its licence to operate, and it is easy for four executives to cooperate in bidding up salaries.

As Callon (1998) and those following have noticed, markets ‘overflow’ with unexpected consequences, some of which may permanently disrupt market operation.

Overall, however, we conclude that a producer market is a viable design option for a financial exchange. This claim is of increasing relevance in an era where market design is dominated by concerns over the fragility of markets dominated by HFT. Academics and regulators have recognized the dangers of excessive interpersonal efficiency (Aldridge & Krawciw, 2017; Beunza *et al.*, 2012). The homogeneity and interconnectedness of global main board exchanges might usefully be tempered by alternative mechanisms of market governance. In a producer market, ties of reputation, practitioner knowledge and sociality – market imperfections – underpin the effective functioning of the market. As economists seek to tackle social problems using markets as ‘boutique information processors’ (Nik-Khah & Mirowski, 2019) and activists search for new models of market arrangement and participation (Callon, 2017; Geiger & Gross, 2018), we emphasize the importance of these entanglements, not only to those engaged in market design, but also to scholars commenting thereon.

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Notes

1 <https://www.londonstockexchange.com/statistics/markets/aim/aim.htm> (accessed 7 May 2021).

2 There is a difference between earlier and later versions of the hypothesis around the meaning of both ‘relevant’ and ‘available’. See Fenton-O’Creevy *et al.* (2005).

- 3 A principles-based approach relies upon principles and outcome-focused rules rather than detailed rules prescribing how outcomes must be achieved ('Principles-based regulation', FSA, April 2007).
- 4 Speech by Tom Troubridge from PWC, at the Corporate Governance Research Seminar on AIM at the London School of Economics on 12 March 2008.
- 5 Speech by David Pinniger from Abingworth Life Sciences and Healthcare Investment in a seminar on AIM at LSE on 12 March 2008.
- 6 On 8 August 2005, the LSE issued its first public rebuke of a Nomad, Durlacher Corporation (a former investment banking company which has since merged with Panmure Gordon & Co.), for delaying a profits warning by its AIM-listed client Prestbury Holdings for eight days while the company carried out fundraising. In addition, there were a number of private censures of AIM companies and Nomads for breaches of the AIM Rules. (Source: Stock exchange AIM disciplinary notices and news, for example, MacDonald, 2007).

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Appendix. Interviewees

Name/Pseudonym	Role
Andrew Beeson	Founder Beeson Gregory, broker, Chairman of Schrodgers
Andrew Buchanan	Fund manager
Barry Hocken	OFEX executive, Newstrack founder, small company financier
Brian Winterflood*	Founder, Winterflood Securities, market-maker
Corporate advisor 1*	Small company financier
Corporate advisor 2*	Small company financier
Corporate advisor 4*	Small company financier
Corporate advisor 5	Small company financier
Emma Jenkins	Former MD of OFEX, daughter of John Jenkins
Fund manager 1	Fund manager
Geoff Hoodless*	Founder Hoodless Brennan, broker
Gervais Williams	Fund manager
Giles Vardey*	LSE Director of Market Development, Chairman of PLUS
John Jenkins	Founder, JP Jenkins, founder OFEX, former chairman of OFEX
Jonathan Jenkins*	Former MD of OFEX, son of John Jenkins
John French	Company promoter
Marcus Stuttard*	Current Head of AIM and UK Primary Markets at the LSE
Market executive 1*	Market executive
Market executive 2	Market executive
Market executive 3	Market executive

(Continued)

Continued.

Name/Pseudonym	Role
Market executive 4	Market executive
Market executive 5	Market executive
Market executive 6*	Market executive
Market maker 1	Market-maker
Market maker 2	Market-maker
Martin Hughes	Seconded to AIM launch team
Paul Brown	Cofounder JP Jenkins Ltd
Phil Nathan	Director of broking, Charles Stanley
Promoter 2	Company promoter
Public relations 1	Former journalist, Public relations
Public relations 2	Public relations
Public relations 3	Public relations
Public relations 4	Former journalist, Public relations
Simon Brickles	Former Head of AIM, former CEO of OFEX
Stephen Hazell-Smith*	Fund manager, former Chairman of PLUS
Stephen Norcross*	Director of broking, Finncap
Theresa Wallis*	Former Head of AIM
Tim Ward*	Former member of AIM launch team, CEO of QCA

* denotes multiple interviews. Interviews were conducted on the record unless requested otherwise. Anonymity, where requested, required the anonymizing of groups e.g. 'market executive'.

Philip Roscoe is Reader in Management at the University of St Andrews. He is interested in innovation and organization in markets and has researched empirical sites from online dating to small company stock exchanges. He has been a Leverhulme Trust Research Fellow and has published in leading sociology and management journals, including *Organization Studies*, *Human Relations*, *Accounting Organizations and Society* and *Organization*, with monographs published by Oxford University Press and Penguin. In 2011 he was one of the 10 winners of the inaugural AHRC BBC Radio 3 'New Generation Thinkers' scheme and was shortlisted for the 2014 Deutscher Wirtschaftsbuchpreis. He is Associate Editor of the *Journal of Cultural Economy*.

Paul Willman is an Emeritus Professor of Management in the Department of Management at the LSE and Academic Director of LSE's Executive Courses. He has held Visiting Professorships at Sidney and Macquarie Universities and Senior Research Fellowships at Imperial College and Nuffield College, Oxford. Until 2006, he was Professorial Fellow of Balliol College, Oxford and the inaugural Ernest Butten Professor of Management Studies in the Said Business School, Oxford University. He was Director of Executive Education at Oxford 2001–2003 and founding Director of the Oxford EMBA. He was Editor in Chief of *Human Relations* (2000–2006). He was Professor of Organizational Behaviour and Industrial Relations at London Business School from 1991–2000. He is the author of 10 books and numerous papers in academic journals.