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Financialisation and labour in the Australian commercial construction industry

Dick Bryan
University of Sydney, Australia

Michael Rafferty
RMIT University, Australia

Phillip Toner
University of Sydney, Australia

Sally Wright
University of Warwick, UK

Abstract

Financialisation and financial risk have become current buzzwords, but the connections between finance and labour are not well developed. Often labour is cast simply as the distributional victim of developments like shareholder value, the privatisation of public infrastructure and labour market reform. This article engages developments in the construction industry and locates a growing financial logic inside 'production' and work in that sector. Through the concepts of liquidity and risk, we identify causal connections, not just parallels, between financial innovation and the reorganisation of the logic and structure of work in the Australian construction and property services industry.

JEL Codes: G00, F36, J41, L23, L24, L74

Keywords

Construction, financialisation, liquidity, risk, sub-contracting, work

Corresponding author:
Michael Rafferty, RMIT University, GPO Box 2476, Melbourne, VIC 3001, Australia.
Email: michael.rafferty@rmit.edu.au

Introduction

> The concept of profit within the building industry context is inextricably linked to the notion of risk … Building contracts in all their forms have been designed with the specific purpose of identifying, allocating and pricing risk between the various parties. (John Crittall, 1997)

Commercial construction (the building of offices, hotels, shopping centres and large residential buildings) is typically organised through what is known as joint production (Morris, 1973; Vrijhoef and Koskela, 2005; Winch, 1989; Wouters et al., 2012). Production largely occurs on-site and comprises a range of tasks, requiring different technical skills, usually involving different teams of workers at different production stages. The typical business model in construction sees projects managed by a head contractor who then sub-contracts some or all of the work to a number of specialist firms. At the end of a project, the contractual relations between head contractor and sub-contractors often dissolve and new relations are established for subsequent projects, sometimes with a similar set of contractors and sometimes quite different ones.

This form of joint production creates complex interactions between firms and workers up and down the construction supply chain.[1] It also presents challenges to many conceptual and regulatory agendas because it sits somewhere between two clear models of production – vertical integration of the production process *within* an individual firm and arm's length exchange *between* discrete firms (Eccles, 1981).

The particularities of construction work have long encouraged agents in the industry, as well as legislative and policymakers, to treat the industry as something of an anomaly. One result has been that regulation evolved to allow construction contracts to partition roles with the objective of unbundling risks, to be allocated between the head contractor and the client, and within the sub-contracting chain. By and large, the agenda has been to share risks along the chain. On-site, this has meant that workers often work in non-standard forms of employment or as independent contractors. The prevalence of non-standard work has also fed the idea of construction as special case in employment and industrial relation (IR) terms and permitted construction IRs to also be partitioned from the dominant analysis of 'standard' employment.

Shifts in the balance of power within the industry over time have changed who has actually ended up bearing the costs and risks of contract performance. In terms of power relations on construction sites in Australia, resistance by organised labour on larger sites has tended to put a floor under the downward transfer of risk. On smaller sites, especially in the residential building sector where organised labour has been much weaker, supply and demand for skilled labour have acted as a constraining factor shaping the allocation of risk and cost.

This article examines three significant developments within construction and the increasingly related property services industry over the past 30 years. Commercial property has emerged as an asset class, head contractors have become property services firms and labour has become a site of risk shifting. While these developments may continue to be particular to construction, they may no longer be exceptional or anomalous. Developments in construction may portend a wider trend of risk shifting in the world of work. As a result, the long-held dichotomy between standard and non-standard employment may need to be reconsidered. Perhaps, there needs to be recognition that the standard/non-standard dichotomy is becoming a fluid continuum rather than a binary category, potentially reflecting the re-emergence of an earlier model of corporate organisation and employment relations (Quinlan, 2012; Stanford, 2017).

This article draws on three main sources. It uses financial market data on the property services industry, corporate accounting data on head contracting firms, Australian Bureau of Statistics (ABS) data on trends in construction work and interviews with workers and construction managers for establishing the risk-shifting agenda of labour relations in the sector. The analysis is organised in five main sections. The first provides a brief identification of recent developments in financial risk management in the construction industry linking calculated risk to rapid innovation in the contracting of work. The next section describes how commercial property has emerged as an asset class, changing relationships within and beyond the construction industry. The third section charts the transformation of head contractors from regional building firms to global property services conglomerates. The changing corporate and financial structure of construction can be thought of as increasing the financial logic of risk and risk shifting in the industry. The article then examines how labour relations in construction have been changing as head contractors reshape work in the model of risk and liquidity. The final section uses the insights gained from the preceding analysis to engage debates about the changing nature of work.

Risk, liquidity and change in the construction industry

Three broad developments in construction and property services will be elaborated over subsequent sections, but here it is important to identify them and the financial calculus that binds them.

First, commercial property has been integrated into global capital markets. Before 30 years, the major clients of commercial builders were governments, large corporations and insurance companies, who typically built-to-own or built-to-occupy or manage. But commercial property has become a global asset class, purchased by organisations like pension funds and hedge funds without any necessary direct connection to the industry. They want exposure to the financial performance of buildings – their rent, maintenance and their capital appreciation – but not necessarily direct ownership. Buildings are now built-to-distribute, often to become part of capital market vehicles like listed property trusts.

The second related development has occurred in the corporate organisational structure of construction work. Construction companies have been transformed from specialist regional builders into global property services firms who are now often involved in finance, development, construction and property services activities. Construction has become just one part of their business operations.

The third change has been in the construction labour process and the contractual relations organising it. While sub-contracting has long characterised the industry, we can now see this form of work diverging further from the conventional wage relation and evolving more intensively into forms including individual labour-only sub-contracting, labour hire and output-based labour remuneration (metre-age rates for plaster boarding, tiling etc.).

These three developments are closely linked, for they all feed into the related concepts of liquidity and risk. In broader social terms, we might describe this as a process of 'globalisation' and 'financialisation', but those terms, especially the latter, need to be fleshed out concretely in the context of the construction industry.

In the current era, a financial problem for the construction industry has been that its output is illiquid. Finance is tied up for long and often uncertain periods in the construction process, and the building itself is not quickly sold. In a world that prizes liquidity as a way to manage risk and optimise returns, the three changes identified above move the industry towards innovations that produce liquid, globally traded financial exposures to fixed assets (property trusts) and liquid exposures to workers (sub-contracting etc.). It is by the creation of two concurrent liquid exposures that the pricing and shifting of risk comes to the fore as the calculative agenda of both finance and work.

The remainder of this article draws out the significance of these three processes.

The cityscape becomes an asset class

From the 1980s, an increasing determinant of what buildings are erected, where they are built and the pricing of those developments could be found in the decisions made in global capital markets. Part of that process involved a reorientation of corporations and governments away from commissioning buildings to own and occupy or for financial institutions like life insurance companies to own as landlords. In its place has come the development of securitised investment vehicles like real estate investment trusts (REITs) to become the owners of property developments. Here, the objective shifts from the purpose and use of the building qua building to building as asset and its value compared with other asset values. With this financial innovation, investors can now buy into the pooled income streams derived from buildings without the need to own the bricks and mortar. The development of financial products to give a financial exposure to property has generated a new globalised liquidity to construction-related assets and helped make commercial property into an asset class for global investors.[2]

Financial institutions can generate fee income from providing financial services to the property sector, without the need for direct ownership or lending. In a recent global survey of the listed REIT market, it was reported that there are now 43 listed REITs in Australia with a market capitalisation of about US$100 billion, representing more than 8% of the global REIT market (European Public Real Estate Association (EPRA), 2015). As the then Property Council of Australia CEO, Peter Verwer, astutely noted more than a decade ago, with asset ownership increasingly separated from occupancy, the sorts of calculations about property have become more and more financialised:

> [The] property sector has been very much integrated into the capital markets sector over the past decade.
>
> It thinks like the capital markets sector, and the main questions it asks itself are: where should we invest this money, and what risks are attached to it? (Verwer, 2004: 92)

Increasingly, property developers rely on global capital markets and financial innovation to raise funds for construction and deliver in return liquid financial assets backed by construction and property service contracts. This change has increased the competitive pressure on developers to attract mobile investment funds and convert illiquid built assets into internationally tradable financial instruments. The effect is that built assets, as a class of asset, enter into competition for the attraction of funding with other asset classes (like stocks and bonds) on a risk-return adjusted basis.

Government expenditure in construction has followed a similar path. As public sectors around the world have diminished their direct engagement financing and undertaking construction, preferring 'contracting out' of things like infrastructure, the public sector employment of construction workers has declined markedly and new opportunities have opened up for property developers and investors.

In Australia, the public sector share of total expenditure on construction declined by nearly half, from 36% of the total in 1987 to 20% in 2004 (ABS, 2004) (the period of rapid 'privatisation') and currently stands at 19%. Government retrenchment also extends to withdrawal from directly employing large numbers of construction workers and professionals, such as architects and engineers.

The financialisation of commercial property ownership has also changed the competitive dynamics of construction. Financialisation has effectively re-aligned competitive processes within the construction industry in favour of head contractors. With the rise of property as asset class, there has been less incentive for former large owner/occupants like governments and insurance companies to participate in the construction process either as builders or managing clients. Large private developers, both government and private, have divested themselves of most of their internal construction and engineering skills once required to directly supervise the construction process. They instead now focus much more on financial management. The Property Council's Peter Verwer is worth citing again on this issue:

> The clients (owners) in the property sector have a different role than they did even a few years ago, and it is a more distant role from the construction sector than had previously existed …
>
> (I)n the past the clients used to be part of the manufacturing process that was the construction industry – they were deeply embedded in the food chain … (and) all had chief engineers, big construction departments and all the rest of it. They do not do that anymore; in fact, those positions do not exist at all. (Verwer, 2004: 92)

Moreover, as governments have looked to reduce the book value of public sector debt, by privatisation of physical assets, the borrowings undertaken to purchase those assets are increasingly funded by securitising their income streams. Infrastructure and infrastructure-like assets that promise the (relative) safety of government guarantees or service contracts and which generate stable revenues (like toll roads and telecommunications), but with higher yields than government bonds, have become particularly attractive in financial markets. Here, too, a global calculative discipline has emerged. As a report by the financial conglomerate Australian Mutual Provident (AMP) noted,

> …[C]apital is not constrained by national boundaries … (and) an investment in Australian infrastructure must be attractive from both risk and return perspectives on a globally comparative basis, otherwise local and foreign capital will be deployed in other jurisdictions. (Maclean and Lucas, 2014: 2)

Builders become international property developers and financial services companies

Before 30 years, head contractor companies in commercial construction in Australia were largely specialist regionally based organisations. Multiplex, for instance, was a commercial head contracting company that grew to dominate this sector in the Western Australian capital city of Perth. Grollo Construction, likewise, was a dominant head contractor in the Victorian capital city of Melbourne. Both grew to become major national and then international players in the commercial construction industry. The business of head contractor used to be principally managing labour and sub-contractors on-site and ensuring the timely supply of buildings on a range of contractual terms. These companies typically undertook work commissioned by governments, large corporations and insurance companies (who usually bought and owned the buildings for direct occupancy or as an investment for long-term ownership), on a range of contractual terms, but often on a cost plus basis. Their IR models were often similarly regionally particular.

But a number of global and sectoral transformations changed the relations between property development and head contracting. In the 1980s, the contractual terms being offered to construction head contractors started to change. One senior construction manager interviewed noted that in contracts started shifting from cost plus to ones where the construction companies had to bear risks for things like weather, industrial unrest, force majeure, latent ground conditions and the like. Construction companies initially found this quite stressful, but over time they began to find ways to pass these risks down to sub-contractors. As the interviewee puts it, construction companies responded by finding better ways of assessing such risks and 'monetising' them.

Australian construction companies also began to expand globally. Multiplex famously nearly risked and lost it all when they built the new Wembley stadium in London, and other head contractors went abroad with initially mixed results. Since then, and along with Lend Lease, Leightons and Grocon, they established significant operations in Western Europe, Asia and the Americas.

As commercial buildings have become integrated into global finance in new ways, there has also been a growing fluidity in the institutional structure of finance, production and consumption of commercial real estate. A prominent example of this is that the earlier division between developer, head contractor, client and financier has been blurring.

In this period of flux, with property developers increasingly engaged in physical construction so as to provide a material platform on which to create securitised investment vehicles, the balance of power between client and the head contractor has tilted structurally towards head contractors.[3] In a highly contractual environment, technical knowledge about the qualities, capacities and applications of a building; the details of costs of producing them; and their likely revenue-generating capacity is effectively a form of financial power. Head contractors came to realise that in such an environment of property-as-asset-class, they could not only leverage that technical knowledge to increase the profitability of their construction activities, but they could also themselves become property developers.

When we look at modern construction companies, two things therefore stand out:

1. Increasingly, what construction companies do off-site (and outside of supervising the actual work of putting up buildings) is as important to their success and thinking as what happens on-site.
2. Construction companies today are as much about property development, investment banking and risk trading as constructing buildings.

Construction companies become risk traders

> We harness the capabilities to deliver at every stage of a project – from Development and Investment Management, to Construction and Asset and Property Management. Our projects span key sectors including development, construction, communities and healthcare development. Lend Lease (n.d.) Company website

As property development and finance merged in new ways, forms and spaces, opportunities emerged for head contractors to transform themselves into players in financial markets. In Australia, head contractors not only continued to manage building construction, but they also started to organise the financing, manage the financial risks of developing buildings and manage the property trusts that were becoming the ultimate owners of the buildings. Lend Lease signalled the direction of their future expansion in the early 2000s:

> Lend Lease … a leading Australian property developer … divided its most senior talent between Sydney and London for several years in the early 2000's with the CEO moving to London away from his managerial team. The move was inspired by, and apparently fulfilled, the desire to expose the organisation to global deal flow in a way that could not be facilitated otherwise. (Desai, 2008: 9)

Apart from casting Lend Lease now as principally a property development firm, Desai identifies financial deal flow as driving the strategic thinking of the company. One indication of this shift is changing composition of its board of directors since the late-1990s. Figure 1 indicates that whereas from the late-1990s until the mid-2000s, directors with an engineering and general background made up more than 80% of the board; by 2013, there were more directors with a finance background than those with an engineering and general background.

Board composition is one symptom of the financial changes explored here. The underlying process is the way the value chain of 'construction' companies is now being framed in terms of financial risk and asset management. For example, Figure 2 shows the evolution of Multiplex from a Perth construction company in 1962 to an institution featuring finance and investment. In 2007, Multiplex was bought by UK-based property services conglomerate Brookfield Asset Management. Similarly, in 2015 Leighton Holdings was formed into Construction, Infrastructure, Mining and Concessions (CIMC), after an investment partnership with funds managed by affiliates of the US-listed Apollo Global Management Corporation. These instances signal the growing role of asset liquidity and financial risk management within the construction industry.

We can only surmise as to why this shift has been so dramatic in the construction industry and among head contracting firms from Australia. Perhaps, it was because the head contractors were at the intersection of so many points of contractual negotiation and risk management that their capacities for negotiating around and managing risk had

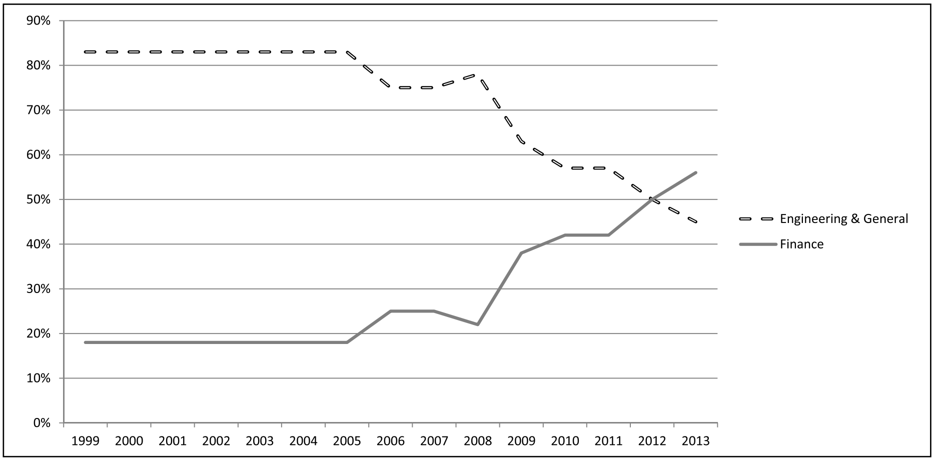

Figure 1. Lend Lease – Professional backgrounds of board.
Source: Lend Lease (1999–2013) Annual Reports.

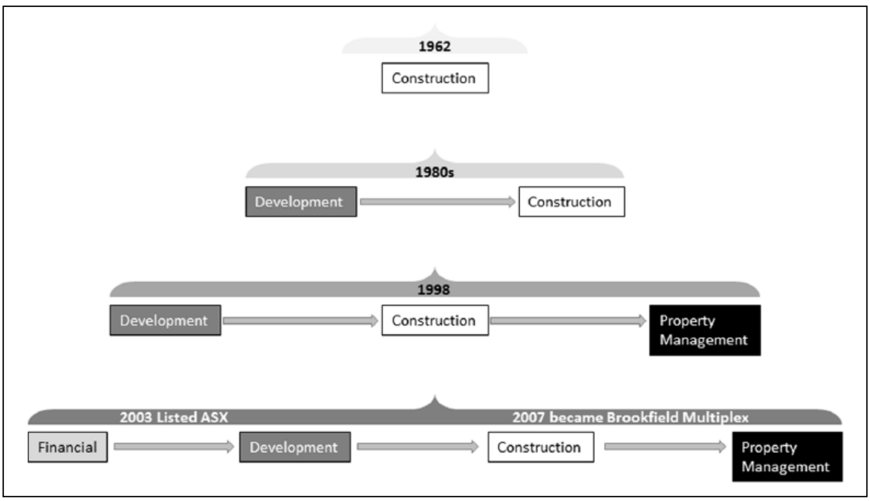

Figure 2. The transformation of head contracting companies into property and financial services conglomerates – the case of Multiplex. ASX: Australian Stock Exchange.
Source: Multiplex Annual Reports, various years.

forced them to transform their operations as a key to profitable head contracting (Mead, 2007; Wood, 2012).

Financialisation and labour in construction

This focus on financial risk management, and the capacity to design contracts which deliberately allocate financial risks along the value chain, has undoubtedly created a risk

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management culture in the way head contractors and large sub-contractors now manage construction sites. The growing role of finance in the industry, the deepening fragmentation of the labour process via pyramid sub-contracting and the task-based costing and payment systems all have implications for the nature of work contracts, work intensification and occupational health and safety (OHS) outcomes. The new capacity to measure risk is accompanied by a capacity to shift it, based on power inequality on construction sites:

> The construction industry is generally held to be fragmented, made up of a large number of relatively small firms which join together in temporary pseudo-organisations to undertake specific projects. At the crux of this organisation lies the head or management contractor, whose role, increasingly, is that of management rather than execution. This entity sits at a power locus, with all decisions and cash flow passing through their control. This is an enormously powerful position which carries a corresponding responsibility. The financial management of those firms in this position is what has created the industry as we know it today. (Kenley, 2003)

The transformations of commercial property into an asset class and head contractors into part risk-trading investment bank have had a direct impact on work in the construction sector. Put simply, many risks previously borne by clients, head contractors and large sub-contractors as employers in construction have been systematically shifted across the construction value chain and especially onto labour. Work is, for instance, increasingly contracted on a task and output basis and increasingly also on an as needs (contingent) basis. There are now several more layers of sub-contracting: labour hire agencies supply more temporary labour and head contractors now typically employ hardly any people on-site. This change flows right down to the individual worker, who is now often working on individual contracts for service (as pseudo-small business operators), and required to manage the risks of rectification, continuity, injury, superannuation, public liability and their associated financial contracts.

Sub-contracting intensification has a deeper connection to developments in construction and the property services industry:

> … what appears on the surface as simply short-term competitive advantage through the use of non-standard labour … has foundations in a deeper competitive process, as labour markets, firms and financial assets are thrown together into constant competition across industries and locations. (Toner and Coates, 2006: 106)

We can identify two broad ways in which risk shifting occurs in construction contracting:

1. There are now more layers of sub-contracting. Head contractors now perform less of the construction work on-site and more of it is performed by specialist sub-contractors. The share of specialist sub-contracting in small-to-medium–sized firms in construction has grown from around half in the 1980s to over two-thirds by 2012 (ABS, 1984–1995, 1997, 2013).
2. The intensification of work by risk shifting onto workers – less than half of all construction workers are in a conventional contract of employment (i.e. an employee who receives entitlements such as paid leave), making ‘non-standard’ forms of work the industry standard. The use of individual contracts and forms of

de jure or de facto piece rates to arbitrage of regulatory differences is now also standard (although controversial). The growth of 'sham contracting', where a person is engaged on a contract for service when they are under the effective control of a firm, is widespread (Queensland Government, Finance and Administration Committee, 2016; Queensland Government, Ministerial Reference Group, 2011; Rafferty et al., 2011).

Intensified sub-contracting

These changes in corporate organisation and the logic of construction management mean that key skills of senior management now lie not just in engineering and building but in finance and financial risk management (Ranesh et al., 2012). Head contractors began increasingly to deploy those capacities in novel ways. One was to profit from their advantage in risk calculation and its relocation in order to 'arbitrage' their position against both clients and sub-contractors. Using the language of financial risk to explain the process, here is how a former senior manager at one of the leading construction companies put it:

> … I believe there's an arbitrage of knowledge between clients and head contractors, and head contractors and sub-contractors, and the arbitrage is unreasonably leveraged to the benefit of the head contractors almost all the time. (Cited in Rafferty et al., 2011: 68)

This statement identifies sub-contractors as a key target for arbitrage within the building process: mid-tier sub-contractors must regularly confront very competitive tendering and re-tendering that often pre-determines shifting risk even further down the contracting hierarchy (Perraudin et al., 2014). The only way to secure a mid-tier sub-contract is often to transfer costs and risks to 'lower' contractors. Head contractors' use of intensive contracting to shift risk extends also to off-site service providers like architects and engineers, generating adversarial contractual relations (Loosemore et al., 2003: 4). One professional engineering association noted their experience of contractual risk shifting in commercial construction:

> Relationships between client and consultant have become more contractual and adversarial, rather than co-operative. Most clients select a consultant on the low bid …
>
> The low-bid environment corrodes professional ethics and professional standards among those operating in that environment. Compromising ethics and standards allows underpricing of the necessary work to win the job. The consultant's input is then limited by price, with an increasing likelihood of searching documents for 'loophole' opportunities … (Queensland Engineers Association, cited in Rafferty et al., 2011: 76)

The peak body for professionals in the construction consulting industry in Australia has made a similar point about the power asymmetry inherent in the monopsonistic and financialised construction contracting system:

> Our members frequently report being presented with contracts containing onerous terms that might have serious consequences if ever used in the event of a dispute. The concept of

> negotiating a contract is often illusory, as contracts are presented on a 'take it or leave it' basis, meaning that these terms must be accepted if our member wants the work encompassed in the contract.
>
> Risk allocation is at the core of our concerns relating to onerous contract terms. Risk is frequently passed between parties as they seek to offload a perceived liability, without regard to how that might affect delivery of the project. The professionals we represent provide their expertise as the product, and yet in many contracts are held liable for the errors of others or for circumstances beyond their control. (Consult Australia NSW & ACT, 2012: 6)

Intensification and fragmentation of work

Before 30 years, head contractors engaged a part of the on-site workforce directly and had a small number of sub-contracting packages on any build.[4] Today, head contractors employ very few on-site workers and instead manage a range of sub-contracting packages, which are often then re-contracted downwards. Workers are now often engaged on contracts and paid for work based on task and output, rather than time basis. This risk shifting across the value chain is manifesting in evidence of work intensification and more demanding work (McDermott et al., 2017; Mayhew and Quinlan, 1998; Thompson, 2003).

High levels of sub-contracting in the industry might be seen as a technical solution to the complex task of assembling and coordinating the range of specialist trades required in undertaking a construction project. Whatever the other merits, multiple levels of sub-contracting have widened the gap between the project manager and workers on the ground. Just as the construction industry has identified risk as a factor to be allocated in contracting, site governance arrangements can influence how and by whom those risks are absorbed in practice.

These contracts also often specifically allocate many risks previously borne by head and sub-contractors (as employers) onto labour (the requirement to self-insure around income security, workers compensation, superannuation, public liability etc.). These contracts are also arranged through a web of corporate entities, which effectively exposes workers to the risks of head or large sub-contractor insolvency.[5] They also shift attributes of the employment relationship between several parties (as in labour-hire arrangements). Such contracts also often re-define workers from a status as employees to de facto small businesses (self-employed, labour-only sub-contactors). Despite the fact that many people are working in virtually the same labour process as wage workers, their contractual status, while often varied, generally contrives them legally to be a separate, arm's length business, or at least at arm's length from the head contractor.

A contributing factor to the growth of self-employment and an indicator of risk shifting through sub-contracting in the construction industry is the growth of 'sham contracting'. This is where a worker, who otherwise meets all the criteria to be classified as an employee, is operating as a sub-contractor. One of the key features that distinguishes a sham contractor from a genuine contractor is that 80% or more of their income is derived from one client, and they do not have control over what, where and how they work. As one account noted,

> (it is) … estimated that around one in ten of the total construction workforce were dependent contractors. This equates to approximately a quarter (24 per cent) of all contractors in

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> construction being dependent contractors … (Queensland Government Ministerial Reference Group, 2011: 16).

While the construction industry is the largest sector for independent contracting, according to one of Australia's leading labour law academics, this process is becoming standard practice in labour markets:

> The reality … is that any competent lawyer can take almost any form of employment relationship and reconstruct it as something that the common law would treat as a relationship between principal and contractor (or contractor and subcontractor), thereby avoiding the effect of much industrial legislation. Establishing or reviewing the terms for such arrangements is routine work in any commercial practice. Stewart (2005: 6)

This process can be seen in legal sense as disguise or in financial terms as a form of regulatory arbitrage: using legal re-framings to shift risks (and hence costs) without a substantive change in role, to the benefit of the head contractor. Head contractors now have the incentive and opportunity to drive risks down the contracting pyramid, with direct implications for labour, but not only labour. In cases where labour is organised or powerful, and can resist these pressures, it is often mid- and lower-tier sub-contractors that are squeezed. Indeed, one of Australia's leading building management academics refers to this as an

> … (a)ll pervasive subcontracting model, which has fragmented the construction industry, leading to a multitude of problems which include abuses of human rights, corruption, under-investments in people and knowledge development and a confrontational culture of risk transfer where there is little incentive to innovate and where risk is passed to the point of least resistance and lowest capability. (Loosemore, 2015)

Discussion: Re-thinking labour beyond non-standard work

While financialisation and financial risk have become current buzzwords, the connections (if any) between finance and labour are not well developed analytically or empirically. Often labour is cast simply as the distributional victim of developments like shareholder value, the privatisation of public infrastructure and labour market reforms. If the concept of financialisation is to develop traction as a way of understanding labour and work, it will need to be able to speak to more than just distributional and inequality issues.

Our analysis engaged developments in the construction industry and located a growing financial logic inside 'production' and work in that sector. Through the concepts of liquidity and risk, we identified causal connections, not just parallels, between financial innovation and the reorganisation of the logic and structure of work in the Australian construction and property services industry.

The evidence of risk shifting presented here is clearly specific to this industry and location. Indeed, our analysis has contended that there are certain drivers that dispose Australian construction, above other industries in Australia and perhaps even construction in other locations, to be the sites of innovative risk shifting. Nonetheless, there are surely some general implications here, in which construction may be seen at the forefront and no longer just as an anomaly, anachronism or exception.

The contractual and financial innovations within construction raise two wider issues. One relates to the changing organisational and institutional forms of production. Whether it be sub-contracting, outsourcing, offshoring, modular production networks, platform-based business, original equipment manufacturer (OEM) and supply chains, we are seeing much more fluid organisational forms of (global) production, where the boundaries between firms are blurring and organisations are much more transactional and changeable (Davis, 2009; Sturgeon, 2002). Here, we can immediately recognise the parallels in the organisational developments in construction, with wider developments in the organisational forms of capital.

This links to the second, broader, issue of interest. In such a world, the model of paid work as between an employer and employee sharing risks and cash flows over long periods of time has become less and less prevalent. Workers being engaged on contingent contracts or for contracts for service are becoming increasingly common. As Davis (2009) has noted, one result has been

> … a disaggregation of employment in which attachments of workers to particular firms is more tenuous, expected tenures are shorter and workplaces themselves are often smaller scale. (p. 31)

In the face of these changes, the conventional conceptual dichotomy between two types of work – 'standard' and 'non-standard' – looks less robust and useful. We identified an increasingly commercial and financial logic shaping the organisation of the construction industry, including work and the contracts of work. Earlier we cited the observation by labour law academic Andrew Stewart that arbitraging the categories of employee and arm's length contractor is now commonplace. So the question that opens up here is whether the growth of non-standard work in construction ('independent' contracting including sham contracting, labour hire etc.) can be understood as just one (albeit important) aspect of a significant and wider process of risk shifting occurring in the world of work more generally. Indeed, financial innovation is itself often about arbitraging regulatory categories for profit by the invention of hybrid financial forms, with attributes of multiple categories and in the process undermining conventional categories.[6] We should at least be open to this challenge in the analysis of employment.

One way of addressing that challenge is to look for comparisons between construction and other industries, especially in the growth of new forms of 'non-standard' labour contracting. We can, for instance, identify a similar growth of fluid and unbundled labour contracting in other sectors, including in horticulture, food processing, convenience stores, cleaning, postal services, security, trolley-collecting, car wash services and hospitality, where

> … key conditions of employment – such as recruitment, training, pay, working hours, supervision, performance monitoring and termination – may be determined and/or implemented by multiple organisations as a result of subcontracting, outsourcing, labour hire or franchising. (Howe et al., 2015: 5)

The recent growth in the number and variety of 'new' non-standard forms of labour, including via companies such as such as Uber, Airtasker and AirBnB has also attracted a lot of attention, including in the pages of this journal (Minter, 2017; Stewart and Stanford, 2017). In February 2016, the JPMorgan Chase Research Institute released a study looking at the impact of growing income volatility associated with these forms of work on households. One of its conclusions was that

> Rapidly growing online platforms, such as Uber and Airbnb, have created a new marketplace for work by unbundling a job into discrete tasks and directly connecting individual sellers with consumers … The 'Online Platform Economy' offers fewer worker protections than traditional work arrangements … (Farrell and Greig, 2016)

This depiction of a process of increasingly unbundling jobs into discrete tasks is not unique to the 'online platform economy' – the construction industry has been exhibiting these momentums for three decades. Platform-based work has brought into sharp relief, however, what seems to the emerging financial logic of more and more paid work. This raises the question of the historical and analytical status of the concept of standard work (Quinlan, 2012; Stanford, 2017).

In a 2007 review of the growth of new forms of labour contracting Ashford et al., following Capelli (1999), analyse them under the category of 'non-standard work'. They argue the dichotomy is still the most useful framing for thinking about the changing world of work. But the argument for retaining that dichotomy is surely a historically contingent claim. This article suggests that the increasing financial logic being applied to work is making 'standard' and 'non-standard' work at best a fluid continuum of work typologies, not a binary dichotomy. We may therefore need to consider the analytical circumstances in which the dichotomy is no longer the most useful framing and the conceptual void that will follow. Our concern is that a privileging of the dichotomy retains a focus on what has been lost (permanent or standard employment) and what is experienced (precarious and non-standard employment), not on how what we and others have identified as a social logic of finance is causing the contract of work to evolve in novel ways.

An advantage of framing work in terms of an increasing financial logic is that it brings risk-trading and risk shifting to the fore and therefore helps frame employment as part of the emerging financial calculative practices of capital. By framing employment in the discourse of finance, it might also be possible to show how changes in employment in construction are a leading reflection of many wider economic and social changes occurring in the construction industry. And a better understanding of those changes might also give us a way of linking them to changes that are producing new forms of work in ride sharing, labour hire and platform-based labour, and in many existing sectors that had quite settled employment and work practices, but now experiencing more fluid and risk-shifted forms of work.

Not all work is being or will be re-made in the image of construction sub-contracting or ride sharing nor is sub-contracting becoming the new standard form of work or employment with leave and other non-wage conditions disappearing. Rather the insight here is that capital thinks about labour increasingly in terms of risk and liquidity, and to understand how work is changing, we must incorporate this driver. As Randy Martin (2008) argued, thinking in terms of finance and risk provides a framing that might be applicable across different fields of work that are experiencing that process in dispersed and different ways. In this way, framing the changing nature of work in terms of risk and liquidity might also help highlight convergence *and* ongoing particularities, rather than expecting a unifying process towards a new general model of work (standard, precarious or otherwise).

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Notes

1. Contracting arrangements also often involve 'connected contracts' (Collins, cited in Teuber, 2011). As Loosemore (2015), for instance, notes,

   > … in contrast to much of the manufacturing sector, the products of construction are delivered by temporary, transient and highly fragmented project organizations involving a multitude of subcontractors, consultants and suppliers arranged into long and complex supply chains with complex risk structures and often conflicting interests. (p. 22)

2. This conversion of real estate to asset class is ongoing. As Cohen & Steers, a financial advice firm specialising in property reported in late 2015:

   > Index providers are set to promote real estate to its own sector category in 2016 … For the first time since the (S&P) Global Industry Classification Standard (GICS) was created in 1999, a new sector classification will be added, elevating real estate to a separate category from its current place within the financials sector.

3. In some ways, 'typical' construction company 30 years ago is something of a misnomer, and we use it here in a stylised way. Some construction companies had their own teams in specialist trades and employed a range of other ancillary workers (project health and safety officers etc.). And the same construction company could employ different sub-contracting arrangements on different projects, depending on the size of the teams and work flow. These differences existed within cities and between states. It also varied between head contractors. Our point is simply to establish a direction of change towards increased sub-contracting and the use of a financial logic in organising the construction process. We thank one of our interviewees from a major construction company for pointing this out.

4. The construction industry is a leading industry for corporate insolvency. In such situations, '… unsecured creditors such as smaller subcontractors (and their employees), usually bear the brunt of corporate insolvencies. In 2013-14, the chance of an unsecured creditor receiving nothing from an insolvent company in the (construction) industry was almost 92%' (Construction Forestry, Mining and Energy Union (CFMEU), 2015).
5. Economic Sciences Nobel Prize winner Myron Scholes (1997), one of the inventors of the Black–Scholes–Merton options pricing model said in his acceptance speech:

   Standard debt and equity contracts are institutional arrangements or boxes. They provide particular cash flows to investors with their own particular risk and return characteristics. These institutional arrangements survive only because they provide lower cost solutions than competing alternative arrangements … Time will continue to blur the distinctions between debt and equity. (p. 147)

   The study of employment might recognise this same momentum for innovative arbitrage.

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Author biographies

Dick Bryan is Emeritus Professor at the University of Sydney. He researches on the impact of financial innovation on class relations. Together with Mike Rafferty, Dick has engaged in a range of debates about the theory of money in relation to derivatives, and the evolving social impact of a 'derivative logic' since the financial crisis. Dick's research also focuses on the incorporation of households into the calculative logic of finance.

Michael Rafferty is an Associate Professor at RMIT University. Together with Dick Bryan he researches on the impact of financial innovation on class relations. Mike has also undertaken research on pension funds and the international mobility of their investment.

Phil Toner is an Honorary Senior Fellow at the University of Sydney. He has undertaken research on economic growth, training and skills development. Phil has also undertaken research for international and national organisations, including the OECD, World Bank, NSW TAFE Commission and the ACTU.

Sally Wright is a Senior Research Fellow at the Institute of Employment Relations at Warwick University in England. Sally's research interests are on job quality, working time arrangements, pay equity, executive remuneration, workplace health and safety, restructuring, retirement and superannuation and work–life balance. She is currently undertaking doctoral studies in the field of job quality.