

THE ECONOMIC ROLE OF
FREELANCE WORKERS
IN THE CONSTRUCTION INDUSTRY
(Second Edition)

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**THE INDUSTRY'S BUSINESS MODEL
DEPENDS ON FREELANCE BUILDERS**



**GENUINE FREELANCE BUILDERS PLAY
A PIVOTAL ENTERPRISE ENABLING ROLE**



**LEGITIMATE FREELANCE BUILDERS
ARE NOT FALSELY SELF-EMPLOYED**



FREELANCE

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EXECUTIVE SUMMARY

Remarkably, there has been little research investigating the economic importance of freelance workers in their own right. Instead, freelancers tend to make cameo appearances in research on industrial relations and entrepreneurship where they are usually cast in a negative light as exploited workers or underperforming entrepreneurs. In this research paper freelancers are the prime focus of attention. We examine their economic role in the context of the construction industry. Freelancers in the construction industry are normally referred to as 'labour-only subbies' or 'pricework subbies'. We find that freelancers serve a unique and hitherto ignored positive function in the economy. They create economic value added by enabling greater enterprise. Indeed, since this value added creates a source of income which is unique to freelancers, we argue it is their defining feature. It distinguishes them from entrepreneurs and employees.

We find that freelancers create economic value in the construction industry through 6 channels:

1. Freelancers enable greater de-risking of business ventures which limits the downside risk and enhances the expected return on investment.

Freelancers offer firms a 'pay as you go' model which saves them the risk of sunk costs inherent in employment contracts. This facilitates the staging of finance and the associated de-risking techniques so crucial to business venturing.

2. By enabling de-risking strategies, freelancers enhance entrepreneurial capability by reducing finance constraints and enabling greater flexibility to alter strategy and tactics.

Freelancers reduce barriers to entry to the construction industry by reducing the need to raise large amounts of finance per building project. By enabling the staged construction of building units freelancers reduce the amount of finance needed for the high-risk/early-stage of a project. If the project proves viable then follow on stages of finance are less risky and hence cheaper and

more readily available. If the project proves to be unviable then the use of staged finance minimises financial loss and increases the ability to embark on alternative ventures.

3. Freelancers enable ventures to utilise performance related pay schemes which can raise productivity and pass off risk.

In the construction industry the use of piece rate remuneration practices is almost exclusively restricted to freelance workers. This implies that the more productive and/or less risk averse workers self select into freelance work.

4. The construction industry has a high degree of specialisation of labour with a concomitant significant amount of downtime (with an average range of between 53 to 82 per cent in our case studies) per trade per project. Freelancers reduce these costs as they entail no downtime costs. But freelancers also reduce the need for firms to have a large portfolio of projects in order to reduce extensive spare capacity costs. So by reducing minimum efficient scale they promote lower concentration in the construction industry.

We found that firms in the construction industry were emphatic in their appreciation of this efficiency enabling feature of freelancers. Every firm we interviewed indicated a severe contraction of

operations (more usually closure) if they had to absorb the downtime costs saved through the use of freelancers. Without freelancers, the higher costs would lead to higher prices which would in turn cause a contraction in the industry.

5. Freelancers enable firms to reduce the cost and risks associated with uncertainty over fluctuations in consumer demand.

Here the spare capacity results, not from the specialisation of labour techniques used in the industry, but from an economic downturn. We found that freelancers absorb much of this risk for firms and hence reduce the scale of bankruptcy. By contrast we found that in boom periods freelancers have played a key role in ensuring that firms were not constrained by lack of capacity. Both effects imply lower costs and building prices for consumers at every stage of the business cycle.

6. Freelancing reduces monopolistic power and promotes competition.

We found that freelancers reduce sunk cost barriers to entry, increase the ability to raise venture finance, reduce risk in entrepreneurship and reduce industry concentration. In sum, they increase the level of competition in the industry which is a major benefit to the British economy. One 'sting in the tail' for freelancers is that this increased competitiveness

reduces their ability to benefit from the value added that they create. Strong competition means that much of the value added is passed onto consumers.

The construction industry's business model is enabled and underpinned by the availability of legitimate freelancers. Without genuine freelancers the construction industry would be smaller in size and hire fewer workers. It would be less entrepreneurial and more inefficient. Consumers (i.e. households, industry and Government) would pay higher prices to a more highly concentrated and less competitive industry. The empirical evidence in this report supports this view. In the case studies we observe industry executives explaining that the industry business model relies on the ability to use freelancers. We test this further by doing two intensive 'ground-up' estimates of the use of freelancers on a homebuilding and a state funded school building project. The research only finds a legitimate use of freelancers consistent with definition outlined in Burke (2012) which captures the unique value added provided by genuine freelancers in the modern economy. Our results indicate that an average of 51 per cent of headcount and 57 per cent of work days on these construction projects were accounted for by freelancers. In other words, freelancers dominate

employees in the trades-manual workforce of the construction industry.

Genuine freelancers play a pivotal enterprise enabling role in promoting economic performance in the construction industry. They are not entrepreneurs but enable entrepreneurship. Their unique contribution needs to be recognised and valued. Their frequent misclassification as lesser forms of employee or entrepreneurs runs the risk of encouraging policies aimed at eliminating this vital input to economic performance.

INTRODUCTION

The purpose of this report is to investigate the unique contribution of freelance workers to economic performance with an application to the construction industry. Despite the fact that freelance workers account for the majority of self-employment in most developed countries, there has been very little research carried out on the impact of this unique type of labour on economic performance. In particular, understanding how business performance is affected as the supply of this type of labour varies.

Most research which has been carried out on freelancers has been motivated by other areas of the labour market and not by an intrinsic interest in freelance workers themselves. Therefore, research only considers aspects of freelance work that overlaps with the core area of interest such as entrepreneurship. As a result, these analyses are only partial in focus and overlook freelancers' most important economic functions. For example, there is an Industrial Relations (IR) literature which investigates the extent to which freelancers are subjected to exploitation by employers. The

question here is how worker welfare is affected by the exercise of an employer's monopsony power. In this research a freelance worker is often the outcome of a push effect where a person involuntarily becomes a freelance worker due to weak bargaining power with employers. In such scenarios freelance workers can get worse pay and conditions than employees on permanent contracts.

There is also an entrepreneurship literature where freelancers are not classified as workers but by virtue of being self-employed are viewed as owner managers who do not (yet) have any employees. Since high performing entrepreneurs are usually characterised by job creation – where high growth job creators are often referred to as 'gazelles' – the freelance 'one man bands' then comprise the lowest end of the entrepreneurial performance spectrum. They are then depicted as failing or underperforming entrepreneurs.

In this paper we take a broader perspective to assess the impact of freelance workers on economic performance at the industry level – specifically the construction industry. This requires an

assessment of some of the neglected economic functions of freelancers in the research literature; particularly their impact on economic efficiency. The construction industry is a useful laboratory for our empirical analysis as it has potential to utilise a wide variety of the economics characteristics of freelancers. We show that freelancers are enablers of economic efficiency – enabling more efficient allocation of risk, reducing excess production capacity, reducing: fixed costs, financial constraints and barriers to entry as well as enabling competition and entrepreneurship.

We argue that while freelance workers share some characteristics with each owner managers and employees, their full economic role is not captured when they are analysed as subsets of either category.

Put differently, freelancers are a unique economic agent and carry out economic functions not undertaken by either owner managers or employees.

The remainder of the report is structured as follows. In the next section we examine theory relevant to the economic function of freelance workers. We derive hypotheses relating to their impact on industry performance. These hypotheses are then explored in the following section of the report which is comprised of 6 case studies including a

corporate international home builder, an SME home builder, a firm in the commercial building sector, and 3 contractors from the excavation/foundations, plastering and the building strip down sectors. Some of these businesses also work in 'repair and maintenance' sectors; particularly in the commercial sector. According to the Construction Skills Network (2010) these sectors account for well over half of total construction industry output^{1*}.

The next section of the report involves the collection of new data in order to quantify the number and hence importance of legitimate freelancers (Burke, 2012) in the construction industry. The data is compiled from interviewing contractors at a homebuilding project and surveying contractors in a state funded school building project. The results indicate that just over half of the workforce in the construction industry are accounted for by freelancers. In the final sections of the paper the implications of the case studies and hypotheses are discussed.

** All End Notes can be found on page 50.*

THEORY & HYPOTHESES

The Oxford English dictionary defines the word freelance as a “person working for no fixed employer”². Wikipedia defines a freelancer as “somebody who is self-employed and not committed to a particular employer long term”³. Essentially freelance workers hire out their labour services on a project by project basis. du Gay et al (1996) argue that the defining feature of freelance work is that it is a transactional short-term contract where the employer does not take responsibility for the personal development and employment career of the worker. Freelancers are usually paid on the basis of their productivity (output of their work) rather than the more commonly used approach in continuous employment where workers are paid on a per time input basis (e.g. weekly wage or month salary)⁴.

Freelancers account for a significant proportion of economic activity. In order to estimate the size of the freelance economy Kitching and Smallbone (2008) propose a broad definition of freelancers as “All self-employed workers and directors of limited companies without employees”. Using data from

the National Child Development Survey 1991, Burke (2000) estimates that 60% of the self-employed do not hire employees. Using data from the European Survey on working conditions 1996 Cowling (2003) finds that 71% of the self-employed in the UK have no employees. According to the latest estimates from the Department for Business Innovation and Skills (2010) 74% of all business enterprises, 8% of turnover and 17% of total employment in the UK private sector in 2008 were accounted for by businesses without employees⁵. In the construction industry in 2008 these figures are 85%, 21% and 40% respectively⁶. Therefore, the relative scale of the freelance economy warrants investigation of the economic function of freelancers in their own right. This is different to other studies to date which have only focused on attributes relevant for an understanding of entrepreneur owner managers or the exploitation of workers.

Burke et al (2008) shows that a typical self-employed career is comprised of discontinuous discrete spells rather than being permanent or continuous. This pattern illustrates the contingent nature of self-employment. At the level of the owner manager this contingency is mainly driven by

business uncertainty whereas at the level of the freelancer it is to a greater extent driven by business practices aimed at maximising efficiency i.e. to minimise risk and avoid excessive spare capacity through the use of fixed term contracts. The term 'contingent worker' is also a widely used term in labour market analyses to describe freelancers. Polivka (1996) emphasises that the defining characteristic of 'contingent work' is that it is based on discontinuous contracts. The contingency is driven by a project's end point of the work rather than an economic downturn – a contingency upon which even some continuous employment often depends. Polivka (1996) also describes contingent workers in terms of being both 'just in time' and 'disposable' hence capturing both the positive and negative connotations of this form of work. The former resulting from employers desire to achieve productive efficiency through the application of 'just in time' technology whereas the latter the result of employer bargaining power over workers.

Most of the research on temporary, contingent or freelance workers focuses on this latter employer motivation. Freelancing is associated with less use of union collective bargaining (Sisson, 1983, Milward et al 2000) and a concern that there is a need for greater collective bargaining at the industry level to protect the interests of contingent workers (Wial, 1994 and Herzenberg et al 1998). This, therefore,

depicts freelancers as the disablers of worker negotiating power over employers. Being a freelance or contingent worker is then cast as a 'negative' or 'bad' economic state which may require public policy measures in order to help workers migrate out of this category (e.g. Krausz, 2000 and de Jong et al 2009). Furthermore, analyses such as DiNatale (2001), Morris and Vekker (2001) and Remery et al (2002) conclude that the majority of temporary workers would opt for continuous employment if they had the choice.

By extension the same studies find that a minority of the workforce voluntarily choose to become contingent or freelance workers. Indeed, Krausz (2000) and Morris and Vekker (2001) find evidence for the US that a desire for job flexibility rather than economic gain seems to be the main determinant of those who voluntarily choose temporary work. The flexibility enabling dimensions of freelancing such as portfolio work and an 'enterprising self' are deemed as positive attributes (du Gay, 1996 and Storey et al 2005)⁷.

Other research also finds evidence that in some sectors contingent/freelance workers command a pay premium over workers on continuous employment contracts. For example, research in the US by Polivka et al (2000) find that there is a great variety in pay across various types of nonstandard employment arrangements⁸. They find that after

controlling for profile effects ‘on-call workers’ earned similar amounts to standard employees while both ‘independent contractors’ and ‘contract company workers’ earned significantly more. de Vries and Wolbers (2005) find similar diversity in the income performance for nonstandard workers in the Netherlands. Both studies conclude that it is a misleading generalisation to depict nonstandard employment contracts as ‘bad’ or undesirable.

Freelancers are inevitably implicated in the conclusions of the extensive entrepreneurship research on self-employment. In this literature the number of employees (or job creation) is often used as a measure of entrepreneurial performance (e.g. Lucas 1978, Cowling et al 2004 and Burke, Fraser and Greene 2010). If viewed in this light then freelancers ‘without-employees’ feature at the lowest end of the self-employed entrepreneurial performance scale.

Carmona et al (2010) find that in the EU variation in the level of owner managers and ‘own account’ self-employed workers typically behave differently across the business cycle. If one views freelancers in their own right rather than as ‘wannabe’ entrepreneurs or employees, then more unique attributes become apparent. Some of these are apparent in the seminal model of self-employment by Kihlstrom and Laffont (1979) upon which

most of the labour economics entrepreneurship research is based. The strength of the model is that it is based around a simple but compelling axiom that people will choose to become self-employed if that career option is preferable to alternatives. Preference for any career option is positively related to its pecuniary and non pecuniary benefits. One of the key purposes of Kihlstrom and Laffont’s (1979) model is to show how much risk-taking is undertaken by the self-employed sector. The model and the resulting entrepreneurship literature focuses on risk associated with uncertainty surrounding innovation and new business ventures. However, if one hones in on the freelance component of the self-employed i.e. those without employees and who merely want to be manage their own labour rather than manage a business empire, then the risk in question becomes more specific. In fact, if one strips out new venture business risk from Kihlstrom and Laffont’s model then the risk remaining is mainly comprised of job insecurity. In a labour market where workers have a choice between continuous employment and insecure contingent/freelance work the financial rewards for freelancers must adequately compensate for the greater risk (income and job insecurity) in self-employment compared to employment. Formally, we can represent the labour market equilibrium as:

$$U(Y^*, N) = u(W^*, n) \quad (1)$$

Where U is the utility/satisfaction derived from self-employment and this is positively related to expected self-employment income Y and non pecuniary benefits N such as job flexibility and being your own boss. Utility, expected income and non pecuniary benefits in employment are denoted by u , W and n respectively. The framework is consistent with the main tenets of the industrial relations literature. So, for example, if an employer abuses monopsony power and reduces the expected wage either by reducing actual wages and/or reducing the number of continuous employment contracts (hence the probability of securing a wage) then W declines. It follows that more people will then flow into freelance self-employment driving the equilibrium expected income (Y^*) to a lower level.

In the entrepreneurship literature self-employment income is derived from business profits and hence influenced by factors affecting revenue and cost functions⁹. With this focus, most of the risk examined is directly related to the entrepreneurial/ impure risk associated with the uncertainty regarding the existence of a profit opportunity and the ability to exploit it (Knight, 1921). It follows intuitively that the greater the entrepreneurial risks the greater the rewards need to be in order for people to choose to start-up a new venture. In the entrepreneurship literature and indeed central to Knight's (1921) defining work, is the idea that

what defines the importance of entrepreneurs to an economy is the inability to pass off this type of risk. Entrepreneurs fulfil a key function in the economy by taking on impure risk and in the process unleashing the exploitation of new profit opportunities. The fact that freelancers take on this type of risk is one of the reasons why they are so often categorised as entrepreneurs themselves. What the entrepreneurship literature misses, therefore, is that freelancers are not really entrepreneurs but enablers of entrepreneurship - by offering labour on contingent terms which allows entrepreneurs to pass off impure risk. By reducing the risk involved in business venturing freelancers therefore generate more entrepreneurial activity than would occur in their absence.

One of the defining features of successful entrepreneurs is their ability to de-risk the venture through staging finance and spreading risk across a portfolio of projects/ventures (Burke, 2009). Bhide (2000) has shown that entrepreneurs will often test out the viability of a venture through a pilot launch rather than attempt a fully resourced start-up. Entrepreneurs also manage risk through use of real options (Dixit, 1989 and O'Brien et al, 2003). Freelancing creates more opportunities for entrepreneurs and corporate ventures to adopt these strategies. Therefore, instead of having to commit to long term employment contracts in order

to secure labour for a new venture, businesses can employ freelancers on short term temporary contracts. To a greater degree, this enables ventures to stage labour costs and only incur them once particular performance/risk milestones have been achieved. Therefore, if the performance of the venture is less than was hoped for, the venture has the option not to incur the labour costs associated with subsequent stages of development. The (downside) risks are therefore reduced in the venture and the expected return on entrepreneurial investment increased. The risk is passed from the entrepreneurial venture to the freelancer who now bears the risk of a period of unpaid labour if the venture fails to proceed after the completion of any stage of development¹⁰.

Also since freelancers are typically paid for the output of their work rather than the input (as is the norm for employees) they take on general business risk. For example, the prevalence of piece work as the contractual norm for most freelancers in the construction industry means that freelancers take on the risk of delays due to bad weather or co-ordination risks associated with temporary non availability of complementary inputs to production. This gives our first hypothesis illustrating to how freelancing can enable greater levels of entrepreneurship.

Hypothesis 1: Freelancing enables greater de-risking of business ventures which limits the downside risk and enhances the expected return on investment.

Burke (2009), points out that when this form of de-risking strategy is employed it also increases entrepreneurial capability on two levels. Firstly, the lower risk and greater expected return on investment make it easier to raise finance and hence reduces the prospect of a venture facing finance constraints. Secondly, by only committing resources on a stage by stage basis the venture has much greater flexibility/agility to alter strategy and tactics if business circumstances turn out to be different than expected once a performance milestone has been reached. Therefore, since freelancers enable business ventures to make greater use of de-risking strategies the following hypothesis follows:

Hypothesis 2: By enabling de-risking strategies, freelancers enhance entrepreneurial capability and agility by reducing finance constraints and enabling greater flexibility to alter strategy and tactics.

Freelancers can also reduce some of the principal agent problems that arise between employer and employee. Storey et al (2005) note that in the British media industry the interests of freelancers are closely aligned to the businesses who hire them:

“Success depends on pleasing clients whatever it took”¹¹. Freelancers’ self-employed status means that they are not subject to most labour law and have lower unionisation. As a result, they offer a secondary highly flexible labour market to firms. This can enable more productive work practices that would not be possible to implement in the less flexible primary labour market. Lazear (2000) notes that piece rates can have dramatic effects on labour productivity. In such cases, this is driven not only as a result of greater effort by workers but by a selection effect where more able workers choose to take up individual piece work contracts in order to avoid negative spillover effects from lazy or less able workers. Prendergast (2002) notes that performance related pay schemes are often used in situations of greater uncertainty where employers pass greater responsibility and risk onto the worker. If self-employed freelance workers are less risk averse than employees then firms will experience less principal agent problems with freelancers who will be more willing to accept performance related pay schemes. This gives rise to hypothesis 3.

Hypothesis 3: Freelancers can enable ventures to reduce firm-worker principal-agent problems through more optimal use of performance related pay schemes which can raise productivity and pass off risk.

The construction industry manifests a high degree of specialisation of labour in production. The productivity enhancing impact of the specialisation of labour has long been recognised in economics as far back as Adam Smith (1776) who used it as the primary building block in his analysis of the Wealth of Nations: “The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgement with which it is any where directed, or applied, seem to have been the effects of the division of labour”¹². A prerequisite to enable these productivity gains is the ability to avoid specialist worker downtime. This implies having enough customer demand to warrant large enough production levels in order to avoid specialist worker spare capacity. As with Ford’s model T car, this is often achieved by passing on a significant share of the productivity gains to consumers in the form of lower prices which in turn generates demand sufficient to support high levels of production. By raising the importance of economies of scale, the productivity gain from the specialisation of labour raises minimum efficient

scale in the industry. However, the availability of freelance workers reduces the need to have high volume production in order to realise these productivity gains. The contingent basis of freelance contracts can mean that they are not retained during spare capacity downtime. This therefore reduces minimum efficient scale and decreases industry concentration.

Hypothesis 4: By reducing the need to for high levels of production in order to avoid the risk of worker downtime when adopting the specialisation of labour, freelancing reduces minimum efficient scale.

Closely aligned to the previous point are the risks of incurring the cost of worker downtime due to an unexpected fall in consumer demand. The short-term contingent basis of freelance contracts means that they can be rapidly hired and fired in order to supply unexpected upturns and downturns in consumer demand. Therefore, in a downturn, risk of spare labour capacity is passed on from the firm to freelancers. Correspondingly, in an unexpected upsurge in consumer demand freelancers enable firms to rapidly hire labour and hence tap into profit opportunities that require speed to market. In this case freelancers save firms the cost and hence risk of carrying spare labour capacity in order to enable the exploitation of unexpected consumer demand.

Hypothesis 5: Freelancers enable firms to reduce the cost and risks associated with uncertainty over fluctuations in consumer demand.

Freelancers also enable a much more competitive market. Hypotheses 1, 2, 4 and 5 have the effect of reducing scale advantages which reduces industry concentration and monopolistic power. Hypotheses 1, 2, 3 and 4 reduce sunk cost barriers to entry while hypothesis 2 reduces financial constraints on market entry and business growth. All of the hypotheses above also increase profitability and hence the incentive to engage in business venturing. Therefore, combined the total impact of freelancing is a greater number of firms competing in the market.

Hypothesis 6: Freelancing reduces monopolistic power and promotes competition.

As noted above in hypotheses 1-5, freelancers enable entrepreneurial and business practices which boost firms' profits. Therefore, as long as freelancers have some bargaining power with firms one would expect them to be able negotiate some share of this value added in the form of higher pay. For example, Heery et al (2004, p24) note that in the entertainment industries some groups of freelancers earn higher rates of pay than employees. They attribute this to compensation for

downtime and lack of benefits. Since this source of income is unique to freelancers, we argue it is their defining feature. It distinguishes them from entrepreneurs and employees. But whether or not freelancers gain a share of the unique value added which they create may have less to do with the importance of their bargaining power with employer firms which has been emphasised in the literature. As hypothesis 6 implies their biggest threat may instead be consumers. By increasing competitiveness freelancers can cause the value added to be passed on to consumers in the form of lower prices rather than boosting profits. To the extent that this happens freelancers' opportunity to negotiate with firms for a share of the value added created is reduced. Alternatively, if increased competition is manifested by greater levels of product differentiation then average firm profits can rise (Burke, van Stel and Thurik, 2010). In this case the potential for freelancers to negotiate some of the gains from their activity is enhanced.

In summary, in this section we noted that freelancers are more usually analysed in the context of employer-employee bargaining power and entrepreneurship. Both of these literatures tend to depict freelance work in a negative light. The industrial relations literature categorises freelance workers as part of an unregulated secondary labour

market where the majority of workers are worse off than they would be in continuous employment. The entrepreneurship literature captures freelance workers by dint of including the self-employed without employees as part of analysis of the self-employed. By consequence freelancers are depicted as low performing self-employed entrepreneurs. The approach we have taken in this paper is depicted in table 1 and shows that the labour force can be divided into a 2x2 matrix based on the dual distinction of whether a person is employed or self-employed, and a manager or a worker. Freelancers comprise the lower right hand box illustrating their self-employed but non managerial status. The table is instructive as it both illustrates why freelancers share some characteristics with other self-employed entrepreneurs and workers on employment contracts, but highlights that they form a unique category in the labour force.

Table 1: Labour Force Functional Categories

	Manager	Worker
Employed	<i>Executive</i>	<i>Employee</i>
Self-Employed	<i>Entrepreneur</i>	<i>Freelancer</i>

In summary, we have analysed freelancers in their own right and derived 6 hypotheses which illustrate that freelancers perform a unique economic performance enhancing function not discussed in the literature hitherto. This shows freelancers in a much more positive economic light where they are the enablers of entrepreneurship, productivity gains and competition. In the next section we move on to examine these hypotheses more closely in the context of the UK construction industry.

EMPIRICAL ANALYSIS

FREELANCE WORKERS IN THE UK CONSTRUCTION INDUSTRY

Data and methodology

Over the period June to September 2010, we carried out semi structured interviews with typical firms drawn from the different sectors of the construction industry in the UK. We focused on building firms rather than private DIY and casual repair and maintenance. We attempted to cover most building sectors and a portion of contractors within these sectors.

To provide an examination of the house building sector we interviewed senior managers¹³ of Taylor Wimpey PLC who are one of the largest corporate home builders in the UK (and who have sizeable international operations). We also visited one of their construction sites on two occasions in order to observe freelancers working at different stages of the production process at first hand. We interviewed the Commercial Director of MV Kelly Ltd who are a nationwide excavation and civil engineering company serving all sectors of the construction industry –

including the Taylor Wimpey site which we visited. Likewise we interviewed the CEO and Finance Director of SDP Plastering Ltd who are contracted in similar home building as well as commercial construction sectors in the Midlands. We also interviewed both the CEO and Projects' Director of an SME house builder (Brian Fell Ltd) who also engages in some repair and maintenance in both house and non house sectors. In addition, we interviewed both the founder and current CEO of an SME (Goldhill Contracting Ltd) who specialise in strip-out and waste removal for pre renovation building work. They operate in the repair and maintenance and commercial sectors of the industry. Finally, we interviewed the CEO of Torclad Ltd who are a nationwide commercial and industrial roofing and cladding company.

The 6 case studies are mainly concentrated in the construction of buildings but also have some coverage of commercial 'repair and maintenance'. Combined they account for over half of the construction industry's output (Construction

Skills Network, 2010). We have not carried out an interview in the infrastructure sector which accounts for 8% of industry output and makes use of the freelancers. The purpose of the case studies is to test the existence and importance of the hypotheses at an empirical level. Given the time at our disposal, we have attempted to cover a wide spectrum of the construction industry and have chosen firms who are either market leaders in their sector or what we believe are typical SMEs. Therefore, the aim is to have a fairly representative, albeit not statistically significant, sample of case studies. Since the number of case studies is small further empirical research is to be encouraged. For the present purposes of kick-starting this research trajectory, we are encouraged by the similarity of views presented to us regarding the economic/business role of freelancers in the construction industry.

Taylor Wimpey: Corporate International Home Builders¹⁴

Taylor Wimpey PLC are one of the largest nationwide home builders in the UK. They also have building projects in North America (USA and Canada) and Europe (Spain & Gibraltar) which account for roughly 33% and 3% of turnover respectively. In 2009 the company had a turnover of £2.6bn while in the buoyant period of 2007 company turnover was nearly twice this amount and

amounted to £4.7bn which indicates the scale of the cyclical nature of the industry.¹⁵

In order to achieve high levels of worker productivity Taylor Wimpey use a high degree of specialisation of labour mainly supplied by contractors who can offer contingent contracts to Taylor Wimpey because they pass much of the risk in this contingency onto their workforce by hiring freelancers (sub contractors or 'subbies') on a contingent basis. Table 2 provides a list of the specialised inputs used in a 224 (predominantly apartment) unit project in Diglis Basin in Worcestershire. We have estimated the percentage of downtime work days per specialised input for this typical corporate apartment build project. The average downtime is 82%. Weighted by cost the average downtime is 74% which indicates that the potential cost savings generated by freelance workers are very high. In the absence of freelancers, Taylor Wimpey and their contractors would be obliged to hire employees and pay them during downtime. The worst case scenario for these firms is where they cannot find any alternative work for employees during this downtime. The data in table 2 illustrates that these costs could potentially entail an average scale up in labour costs by a multiple of nearly 4 (3.85). Therefore, it would take at least 4 concurrent Taylor Wimpey apartment projects of the same scale and within a sufficiently small geographic radius to enable labour mobility in order to avoid these downtime costs.¹⁶

Table 2: Diglis Bason Apartment & House Project

Input	% downtime
Foundation work, substructure, drainage	55.8
Piling	90.4
Brickwork	74.2
Floor Planks	92.3
Scaffold	92.3
Steelwork	88.5
Roofing	86.5
Window Installation	88.8
Kitchens	90.8
Lift Installation	96.2
Plastering	69.2
Electrical/Carpentry	55.4
Painting	82.7
Finals/Clean	91.2
Average	82.4
Max	96.2
Min	55.4
Average weighted by cost	74.3

Table 3 provides similar data for a Taylor Wimpey house building project in Evesham, Worcestershire. There is more scope to have overlapping and more continuous sequential phases of construction in house building than in the case of apartments. As a result, the estimated downtime of 53% is lower but again substantial. This implies at least 2 perfectly sequenced concurrent house building projects in order to avoid much of the downtime costs.

Table 3: Badsey Road House Building Project

Inputs	Weeks	% Downtime
05/11/10 to 13/1/12		
Active weeks	58	
Inputs		
Foundations	34	58.6
1st Brickwork	25	43.1
Joist and Flooring	24	41.4
Plate	25	43.1
Roof	32	55.2
1st Fix	33	56.9
1st & 2nd stage plaster	35	60.3
2nd Fix Carpenter	33	56.9
2nd fix plumb/electric	29	50.0
Paint	33	56.9
Finals	33	56.9
Average		52.7
Max		58.6
Min		41.4

A Commercial Director of Taylor Wimpey, indicated that if faced with the challenge of managing a project without recourse to contractors and freelancers, he believes, that the industry would be pushed towards greater scale of operations in a bid to have more overlapping projects – sequenced as much as possible to minimise downtime for the various forms of specialised labour. However, he was sceptical at how successfully scaling up would solve downtime cost problems as this approach would necessitate regular movement of workers from one region in the UK to another. He felt the industry might be faced with the prospects of taking the downtime costs on the chin. “Demand conditions would not be sufficient to sustain that type of scale up. Even if we had that many projects, regional deployment of labour would entail huge coordination costs for the company and would be very unpopular with workers. In reality, if we had to have all workers on the books then costs would soar and the industry would be badly affected.”

On a separate visit a Senior Commercial Manager indicated that an attempt to eliminate downtime costs though scaling up operations would create high additional logistic management complexities and costs. So, in economics terms, the direct and indirect (through contractors) use of freelancers helps to reduce downtime costs and minimum efficient scale in the home building industry.

In their Annual Report 2009 under ‘Principal Risks and Uncertainties’, Taylor Wimpey emphasise the importance of freelancers to their risk management and company strategy:

In order to optimise our build cost efficiency, whilst retaining the flexibility to commence work on new sites as market conditions allow, the vast majority of work carried out on site is performed by sub-contractors. (Taylor Wimpey, 2009: p. 12)

A Commercial Manager also explained that the firm de-risks projects by selling ‘off plan’ first. He pointed out that company policy typically required that around 15 per cent of a phase of a project must be sold off plan before Taylor Wimpey will give the go ahead for construction work to start. This financial de-risking strategy relies on the availability of freelance workers which avoid sunk labour costs being incurred in the period prior to testing for sufficient market demand (i.e. selling 15 per cent off plan). Simultaneously, they enable the flexibility to commence work when market conditions demand - freelancers enable construction supply to be slowed down or speeded up as market demand ebbs or flows¹⁷.

The Commercial Manager outlined how freelancers help Taylor Wimpey to reduce uncertainty and pass on risk to contractors. Specific pieces of construction

projects (e.g. groundwork, brickwork or plastering) can be contracted out to firms who agree to do that work at a fixed fee and often at short notice. These contractors are able to offer this service through the use of freelancers (sub-contractors or ‘subbies’ as they are known in the industry) who in turn work on a similar basis – usually, on piece rates. Thus, the risk is passed from Taylor Wimpey to contractors who in turn pass it on to freelancers. In subsequent case studies we further examine how these contractors try to avoid downtime costs by utilising freelancers.

Taylor Wimpey increasingly place a strong emphasis on corporate social responsibility as part of their strategy and business practices. As a result, contractors/freelancers are only hired when they can meet the environmental strategic objectives for the company.

“We vet all suppliers prior to working with them to ensure that they meet our requirements for environmental impact, health and safety, quality and financial stability.” (Taylor Wimpey, 2009: p.12)

SDP Plastering Ltd: A freelance contractor¹⁸

This company is based in Staffordshire and operates as a contractor to major building projects in the homebuilding, commercial, industrial and public sectors.

They also operate in the building repair and maintenance sectors. The company’s services include drylining, wet plastering, rendering, floor screed, and metal partitions including wall and ceiling systems.

The founder, Steve Paul, was initially a freelance plasterer who saw an opportunity to start a plastering contracting business based entirely on hiring freelancers. He had previously worked as an employee of a council and observed the high contribution to overheads of having plasterers on employment contracts during periods of downtime. By only hiring freelancers, Steve planned to cut overhead costs as well as avoid the need for major start-up capital. The main remaining barrier to entry was reputation so Steve’s background as an efficient freelance plasterer was important.

Steve and his business partner Steph are acutely aware that the construction business fluctuates with the business cycle. In 2007 SDP Plastering Ltd hired 150 freelancers and this number dived to just 25 in 2009 but had partially recovered to 80 at the time of interview in June of 2010. Over the same period SDP Plastering Ltd dropped its rate of pay for freelancers by 50%. Steve Paul emphasises the importance of passing business cycle risks onto freelancers in order to survive. “We couldn’t operate if everyone was a PAYE employee as our business is feast or famine.

We wouldn't be viable. We would have to raise prices and would price ourselves out of the market". SDP Plastering Ltd's ability to compete on price in the market is facilitated by the cost savings of avoiding paid downtime in periods of "famine".

But their preference for freelancers is not only driven by efficiency gains. It is also driven by the supply of labour. At one buoyant point in the business Steve and Steph tried to hire plasterers on full time contracts but had to revert back to a 100% freelance model within 4 months as over half of their plasterers left the business. Steve and Steph realised that the best plasterers could earn more as freelancers and hence opted for that type of work despite the greater job insecurity. Freelance plasterers are paid on a piece work basis i.e. per square metre. This suits highly productive plasterers who can earn much more than being on industry hourly rates. Steve maintains that "90% of plasterers prefer being paid on a piece work than a fixed hourly wage".

He also notes that piece work enables SDP Plastering Ltd to pass business risks onto freelancers. For example, if materials don't arrive on time due to a lorry breaking down then piece work based pay ensures that this risk of downtime is borne by freelancers. A last minute cancellation of business can also be managed by cancellation of freelancers'

contracts. Combined these aspects ensure that much of the entrepreneurial business risks in the venture can be passed on to freelancers. But Steve Paul also notes that it can swing the other way too in that if a freelancer gets a better offer from another contractor they often walk off a job without notice. The ease in hiring and firing freelancers eliminates the need for lengthy and costly screening and selection of plasterers and means that SDP Plastering Ltd has great entrepreneurial agility to respond rapidly to market opportunities.

In sum, SDP Plastering Ltd highlights how industry efficiency and competitiveness has been enhanced by freelancer workers. This illustrates how in the plastering sector, freelancers have enabled business de-risking, low barriers to entry, highly agile firms, greater worker productivity, and lower spare capacity. The 100% freelancer model used by SDP Plastering Ltd implies that all of the downtime costs are avoided and the risk borne by freelancers. Steve Paul argues that he "simply can't imagine the construction industry functioning without freelance workers. The industry would not survive if subbies (freelancers) had to be on full employment contracts."

MV Kelly Limited: Civil Engineering & Building Contractors¹⁹

This company was the contractor which carried out the foundation as well as the drainage and ducting work in the Taylor Wimpey Diglis Basin project. The firm is one of the major groundwork contractors in the UK.

It carries out excavation, foundation work, drainage and ducting, hard surfacing, and landscaping in the home building, infrastructure, commercial and industrial sectors. It was founded in 1993 by Michael Vincent Kelly who at the time owned a JCB and hired out his excavation services on a freelance basis. He was later joined by his son John Kelly who had a business degree and grew the firm into a nationwide business. By 2010 the company hired 32 office staff and between 400-450 construction workers at any one time. The Commercial Director, Sandy Forbes estimates that approximately 15% of the construction workers are employees and 85% are freelancers.

One of the critical features of the service offering of MV Kelly is that it must be able to supply on an 'as needed basis' and at very short notice. The Commercial Director explains a typical basis for this is that, "Builders will only release a block for

construction once they have sold around 25% of the units off plan. This causes our project start dates to be very unpredictable. When they are approved it is at very short notice, usually 2 to 3 weeks but sometimes as little as 2 days. Frequently, we get last minute postponements or even cancellations. It would not be possible to meet these demands without the use of sub contractors."

Therefore, MV Kelly needs to be a highly flexible company which can avoid worker downtime costs if it is to compete in the market. Sandy Forbes points out that the impact of the economic downturn has had a triple effect which makes these entrepreneurial capabilities even more important. Firstly, the downturn has caused an increase in spare capacity and MV Kelly have been able to minimise these downtime costs through the use of freelance sub contractors. Secondly, lack of demand has caused building projects to be broken down into a greater number of smaller phases. So, for example, a 100 unit building project which in buoyant times would be built in a single continuous phase would be broken down into 5-7 discrete phases with downtime separating each phase. Likewise, the same problem arises with an infrastructure project where funding becomes scarce and hence spending is drawn over a longer period causing more discrete phases. Thirdly, the greater level of uncertainty associated with the current economic downturn

has had the effect of increasing the number of last minute approvals for building phases. Therefore, all three features of the economic downturn have increased the importance of being able to use freelancers in order to avoid spare capacity costs and increase the agility of their service offering. Sandy Forbes explains the consequences of not being able to utilise freelance workers, “The cost of downtime or idle periods would be too great. We would simply go out of business if we could not use sub contractors”.

For example, as we estimated earlier in table 2, the foundation work on the Taylor Wimpey Diglis Basin project entails a 56% labour downtime over the life of the project. Since on average 15% of MV Kelly’s workers are employees then 15% of the downtime costs (i.e. 8.4%) would be absorbed by MV Kelly either in a direct cost or avoided by using these workers on other MV Kelly projects. But 85% of the downtime costs (i.e. 47.6% of total potential labour costs) are passed onto freelance workers. In this manner, large downtime costs faced by a major builder such as Taylor Wimpey are passed off to contractors such as MV Kelly who in turn are able to pass them off to freelancers. The elimination of these relatively large downtime costs means lower cost buildings for consumers and greater levels of enterprise and investment in the industry. Sandy Forbes points out that most freelancers do not want permanent employment contracts

because they prefer taking the risks to get the higher rewards of ‘following the work’. He explains the economics of the situation is that a permanent employment contract offers lower reward because employers need to factor in that the worker will be idle (due to inevitable downtime) for a period of the employment. He argues the pay is also lower because they are paid a fixed wage associated with average productivity. He points out that highly productive workers are better off being a freelance worker paid on piece work based on their personal productivity. Thus, the freelance segment of this labour market attracts less risk averse and more highly productive workers.

Goldhill Contracting Ltd: building strip out and preparation²⁰

Goldhill Contracting Ltd is a building strip out, cleaning and waste removal business in the commercial, industrial and home building sectors. They hire an average of 30 people comprised of roughly one third employees and two thirds freelancers.

The company is a father and son family owned business. It was started by the father Mr William Sie Barnett who as a freelance building strip out worker recognised an opportunity to offer a more professional service in this business sector. The company grew further when the son (Ian Barnett)

joined the firm; applying his business acumen to enhance the scale and efficiency of the company's operations. The use of freelance workers enabled the company to start-up and grow without the need to raise external finance.

One of the main challenges of the business is to dovetail its activities with other construction work involved in any given project. Most of their work is required in phases with substantial intervals between one aspect of the work and then next. As a result, the use of freelance workers avoids substantial downtime costs i.e. two thirds of these potential costs are avoided through freelance workers. They note that most freelancers used by the firm do not want to become employees. They prefer the higher rewards resulting from their willingness to take some of the business risks off Goldhill Ltd. But they also note that they prefer to use employees for some of the work. They use in-house employees to manage the environmental and health & safety performance targets of the company.

Likewise, Ian Barnett is aware that the use of freelance workers enables competition in the industry. He observes that "Without freelancers, the industry would end up being dominated by a small number of big companies".

Brian Fell Builders Ltd: An SME local builder²¹

Brian Fell founded the company in 1966 and since then has been the Managing Director. Previously, he worked on a country estate as a joiner and then was offered a project to renovate a building by a local farmer which led to the foundation of his business. His company operates in many sectors of the construction industry including hospitals, houses as well as maintenance and repair work.

The business is located in the village of Leven in Yorkshire and serves a catchment area which includes the city of Hull. Today the business includes a joinery manufacturing workshop which has its own customer base as well as supplying Brian Fell's building projects in the private and commercial construction sectors. Project values for the construction work undertaken by the business range between £1k to £1.2m. There are 4 office staff, 3 project managers, 18 direct employees (of which 13 work in the joinery) and between 5 and 15 freelancers engaged dependent on workload. The business had a turnover of £2.3million in 2009 and is a member of the Federation of Master Builders (FMB). On a typical house building project and with

current volumes of work, roughly 25% of the labour is carried out by freelancers. By contrast, an unexpected project such as a recent roof repair of a village hall was carried out almost entirely by freelancers.

At the time of interview, Brian Fell had 13 building projects and 15 joinery projects in-progress. Brian Fell and Anthony Thompson (Projects Director) outlined the factors that influence their hiring of freelancers. Their main concern with employees is carrying a labour overhead when business is not sufficient to keep everyone busy. Brian Fell explained that "If we had to put people on the books we would have to cut back on the number of employees in order to avoid having spare capacity". Anthony Thompson described it as a "pay as you go" model where freelancers could be used to enable the ability to maintain supply during spikes in demand and avoid carrying downtime cost during troughs in demand. If downtime is excessive then it will trigger redundancies which in turn add further costs at a time when cash flow is likely to be tight. Brian Fell explained "If you run out of work then you would go bankrupt paying redundancy payments". He ruled out using less specialised labour in order to avoid downtime. He stressed that specialised skills were critical for productivity and quality. He also pointed out that the labour market is comprised of

specialists and that 'jack of all trades' were a rarity (for example, see figure 1).

Anthony Thompson explained that freelancers are able to command a pay premium "Freelancers don't get holiday, sick or downtime pay but this means they can command higher pay per week than employees doing the same work". He also pointed out that there is a selection effect in the labour market where the mindset of the freelancer in relation to risk/reward was very different to an employee. "We could not ask an employee to work on the same basis as a sub contractor. It would unsettle him and he would leave".

Another key consideration in hiring freelancers is that it allows flexibility and agility. Brian Fell maintained that "Sub contractors create flexibility. Moving men around and putting part of the job on hold while a problem gets sorted out is only possible with sub contractors. Without them the company would be left carrying a huge labour overhead in such circumstances".

There are certain parts of the job where the company would not use sub contractors. For example, given work volumes there is a certain amount of labour they feel they can hire as employees without the risk of incurring downtime

costs. This employee base also enables the company to differentiate itself around customer care. This is particularly important for private house build and repair and maintenance. In these market segments customers are on site and hence expect some continuity of builder personnel throughout the entire project. They will also engage with the company most at the start and end of the project and for this reason Brian Fell usually ensures that these parts of the construction project are carried out by employees rather than sub contractors. He pointed out that larger house builders such as Taylor Wimpey do not have the same problem because most large new build projects do not have the customer on site during the building work.

Figure 1: Specialisation of labour in the construction of a single bespoke dwelling.

18 specific phases of works carried out by 14 different trade-groups. Brian Fell Builders program of works for a 5-bed Potton timber frame dwelling.



Torclad Ltd: Commercial and Industrial Cladding and roofing company²²

The company was founded in 1977 as a flat roof provider and gradually evolved to its present position where it is a leading UK manufacturer and fitter of building envelopes which comprises GRP (Glass Reinforced Polyester) bespoke fabrications, rainscreen and traditional wall cladding and all forms of industrial roofing for the commercial industrial and public sectors.

Its customers comprise major nationwide retailers such as Tesco and Homebase, and all the major construction companies such as Interserve, BAM UK and Wates which incorporate new schools, colleges, public buildings and private developments.

The company has 25 full time employees hired in its GRP manufacturing unit. The company only hires freelance sub contractors on the fitting side of its business. Torclad typically use 4 employees and 8 freelancers on a GRP fitting requiring 12 workers. When asked about the reason for this split Managing Director (CEO) Adam Johnson was emphatic that if the company had not historically hired fitters on employment contracts that he would instead opt for 100% use of freelance fitters

on every job. He said that the productivity of freelancers was significantly higher than employees – typically, 25% higher. He said “Clients will ask us if the workers are on a price (i.e. are freelancers) because they know that if they are then the job will get done well and on time”.

Adam Johnson attributes the difference in productivity to a number of factors. The first is due to a selection effect. The type of person that gravitates towards freelance work is entirely different to somebody who seeks employment. He says that freelancers distinguish themselves from employees with characteristics such as being more motivated, responsible and responsive to performance related pay. He says that freelancers “have a thirst for work”, are “their own man” and are “all round better performers”. He points out that they have applied performance related pay to employees but do not get the same reaction as they do from freelancers with the same pay scheme. He points out that the priorities between the two types of workers are completely different as “employees prioritise job security while freelancers want to earn as much as possible. Employees are not prepared to take the risk of becoming self-employed”.

He says that the relationship between Torclad and its workforce is dramatically different depending on whether the worker is an employee or freelancer.

“Our employees treat us like an employer while freelancers treat us as a customer – and in business, customer is king”.

Apart from benefits of direct labour productivity, Adam Johnson states that the ability to hire freelancers at short notice and on a short term basis enables a great degree of flexibility and agility for Torclad Ltd. “Freelancers allow us to scale up or down our operations with ease. They also allow us to speed up a project if required”.

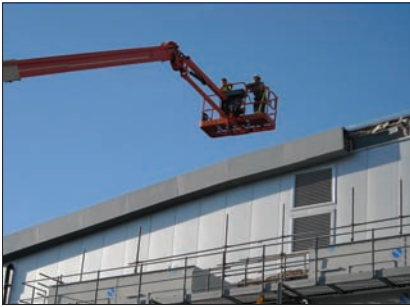
He also points out that the ability of freelancers to avoid downtime costs associated with spare capacity as “fundamental”.

Table 4 provides an estimate of downtime costs for a typical Torclad commercial building roof project – in this case, for a Homebase store (see figure 2).

The data illustrates an average of 54% downtime for the project. In column 2 it is evident that the ‘stop-start’ nature of the specialised input requirements indicate that scaling up the number of concurrent projects is likely to have limitations in terms of its ability to reduce downtime costs as well as posing major logistical challenges. Therefore, freelancers reduce costs and minimum efficient scale in this sector of the construction industry.

At an industry level Adam Johnson argued that freelancers are critical to maximise the efficiency and performance of the construction industry: “The industry simply could not survive without freelance contractors”.

Examples and Illustrations of Torclad’s Commercial Building Projects



Wall Cladding



Insulation



Roof Cladding

Figure 2: Torclad Ltd Project Plan for Homebase

Please note: Only 6 weeks of a 10 week project has been shown.

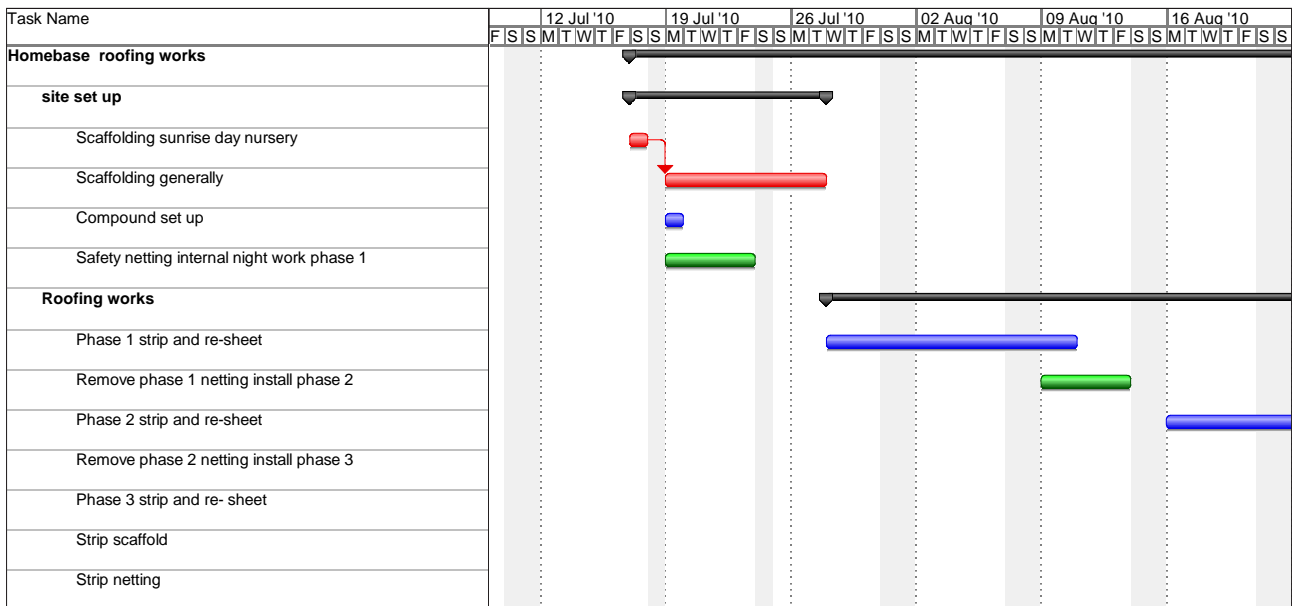


Table 4: Downtime at Torclad Ltd

Roofing for a Homebase store	Discontinuous Phases: (days per phase)	Days	Downtime
Working days: 17/7/10 to 15/10/10		68	
Scaffolding	2: (9 and 8)	17	75%
Safety Netting	4: (5, 5, 8 and 8)	26	62%
Strip and re-sheet	4: (1, 10, 20 and 20)	51	25%
Average Downtime			54%

DISCUSSION

The purpose of the cases is to test if the theory applies in reality. Specifically, to ascertain whether managers in the construction industry use freelancers in order to achieve the business effects outlined in the hypotheses. In each of the case studies we find that the hypotheses are at the forefront of the motivation for managers to hire legitimate freelancers.

Therefore, the evidence bears out the theory that while freelancers share some characteristics with employees and entrepreneurs they play a unique and defining economic role in their own right.

The case study analyses revealed that freelancers' economic performance enhancing effects were not only in evidence but appeared as the main business model upon which the industry's labour hiring practices are based. Virtually all of the managers which we interviewed found it hard to conceive of how the industry would operate without the freelance labour market. They had little doubt that an absence of freelance workers would have drastic economic consequences for the industry.

In the next section we quantify the input of legitimate freelancers to the Taylor Wimpey Diglis Basin homebuilding project and also a state funded school building project (West Lakes Academy) in Egremont in order to ascertain the extent to which the industry relies on freelancers.

The purpose of the paper has been to take a first step to open a new research trajectory which recognises freelance workers as a unique form of labour which plays specific roles in driving economic performance. We examine these in more detail now.

In hypothesis 1 we claimed that freelancers enabled greater de-risking of business ventures. We found that all of the business interviewed utilised freelancers for this purpose – usually, creating their de-risking strategies around the capability of freelancers to minimise fixed sunk labour costs. Taylor Wimpey adopted a staged approach to investment, only investing when 15% of units had been sold off plan. This practice implies that key contractors such as MV Kelly and SDP Plastering Ltd have to be able to scale up and down labour inputs regularly and at short notice. They were only able

to do this by utilising very high levels of freelancers in their workforce (85% in the case of MV Kelly and 100% in the case of SDP Plastering Ltd). In other sectors the same staged investment held true.

Companies like Torclad Ltd's fitting business (66% evolving to 100% freelancers) and Goldhill Ltd (66% freelancers) did not have to commit resources until they actually had an invoice for a new project.

In the case of SME home builder Brian Fell (25% freelancers on scheduled work and a higher proportion on variable demand projects) freelancers play a smaller but similar significant role. However, here we found that the ability to use freelancers is limited when customers regard the 'personal face' of the firm as a key differentiator and competitive advantage. We also noted that employees were preferred over freelancers in businesses engaged in the manufacturing of construction materials (both Torclad's and Brian Fell's manufacturing activities made no use of freelancers).

In hypothesis 2 we argued that if freelancers enable de-risking strategies then they will reduce finance constraints in the industry. Likewise, this will enable greater resources and agility in the use of these resources. In all of the case studies the ability of freelancers to increase flexibility and responsiveness to the unforeseen was highlighted as a major reason for their use. The ability of freelancers to de-risk the business and allow firms to only invest after being

invoiced was key in enabling the start-up of at least half of the companies interviewed. The founders of SDP Plastering Ltd, MV Kelly Ltd and Goldhill Ltd all previously worked as freelancers and were able to evolve into entrepreneurs because of the low finance requirements of start-up due to the availability of freelancers. In essence, allowing a start-up strategy where you sell first and then only pay for labour after an order had been confirmed.

In hypothesis 3 we proposed that freelancers can enable more optimal use of performance related pay schemes which can raise productivity and pass off risk. We found that these schemes could equally be adopted for employees but were not utilised because they do not have the same effect. All of the companies claimed that the 'mindset' of a freelancer is different to an employee and therefore, a selection effect occurs when piece work is made available. In essence, workers with higher risk/reward preferences gravitate towards freelance work. SDP Plastering Ltd and Torclad Ltd claimed that in addition the more able/productive workers would opt for freelance work because the greater availability of piece work in this labour market segment allowed them to maximise their income.

In hypothesis 4 we argued that since freelancers reduce downtime costs they reduce the need for firms to scale up in order to have enough work for

specialist employees. We found supportive evidence for this with an average range of between 53 to 82 per cent downtime in our case studies. In all of these cases, downtime costs were mainly avoided through the use of freelance labour (either directly or indirectly through the use of contractors) with the risk of these costs being ultimately borne by freelancers. This significant value added created by freelancers was cited as one of the reasons why freelancers are often paid a premium over employees for the same work. Most of the managers interviewed were very much aware that minimum efficient scale in the industry would be necessarily much higher if freelancers were not available i.e. with fixed demand M&A activity would increase as firms buy market share in a bid to have more simultaneous and sequential projects in order to avoid downtime (resulting from the specialisation of labour in the construction industry).

The interrelatedness of the assumptions underpinning the hypotheses tends to mean that if one resonates with managers then so will the others. Therefore, at this point in the discussion it is probably not too surprising to note that hypothesis 5 which posits that freelancers enable firms to reduce the cost and risks associated with uncertainty over fluctuations in consumer demand

was also supported by the case studies. The ability of freelancers to facilitate rapid scaling up/down while reducing the costs of spare capacity were emphasised as very important by all of the managers.

Hypothesis 6 claims that freelancing reduces monopolistic power and promotes competition. This hypothesis is an economic implication that follows if the other hypotheses hold true as they reduce: sunk cost entry barriers, finance constraints, labour costs, risk in enterprise and minimum efficient scale. All of these effects promote a more competitive industry which is good for consumers (who may be the main beneficiaries of the value added created by freelancers), employment and the economy more widely. This conclusion was further supported by all of the managers who expressed the view that the current industry structure and scale of output was reliant on the availability of freelance workers.

We close the discussion of the case studies with a few comments on limitations. Firstly, we chose a case study approach in order to flesh out the empirical basis for the hypotheses in detail. We were able to see the hypotheses in action first hand – and in the case of Taylor Wimpey on site. But 6 cases studies is not an entire industry and

therefore, we now welcome more research and also encourage wider examination of freelance work. Likewise, we hope that suitable data can be generated in order to facilitate statistical analysis. We hope that the reader is convinced of the importance of freelancers whose primary role is not as a small-time entrepreneur or exploited worker but as an enabler of enterprise, competition and business performance. We believe that we have made a significant first step towards unearthing that freelancers are an important point of study in their own right and to this end, hope that a freelancer research trajectory will gain momentum.

QUANTIFYING FREELANCERS

IN THE CONSTRUCTION INDUSTRY

Introduction

Earlier we noted that it is common for manual trade employees and freelancers within the construction industry to only be perceived as substitutes. In this light, their main interaction is competitive where freelancers are a shadow workforce for employees. The analysis in this report has shown that freelancers actually serve a distinct economic function of their own.

They help generate 6 areas of value added in the economy which are unique to them i.e. that are not generated by employees. These include:

1. Enabling greater de-risking of business venturing (by both corporations and SMEs)
2. Creating more capable (less resource constrained), flexible and agile businesses

3. Increasing productivity through a reduction in idle workforce downtime
4. Offering more options to use performance related pay schemes
5. Enabling greater ability to manage the risk and uncertainty associated with variable demand i.e. peaks and troughs in demand
6. Increasing competition through lower barriers to entry and reduced minimum efficient scale

We noted in the case study analysis that executives in the construction industry emphasised that freelancers underpinned the business model for the construction industry through these economic value drivers; particularly drivers 1, 3 and 5 above. This raises the question of the extent to which the current industry business model depends on freelance labour. To answer this we estimated the share of freelancers in the construction industry workforce.

In order to provide a robust micro level test we undertook ‘ground-up’ project level estimates of the number of freelancers on two different building projects. This enables an estimate where one can closely observe the composition of the data at the level of the construction project. The first estimate is generated from the Taylor Wimpey Diglis Basin project which featured earlier in this report. This provides a direct insight into the homebuilding sector. In addition, we also examine a state funded school building project undertaken by Kier in Egremont which gives us an insight into the public non-housing sector of the industry. Table 5 illustrates that this implies that we have ‘ground-up’ estimates from sectors accounting for 26 per cent of the industry. In the absence of any other ‘ground-up’ project level estimates and given resource constraints – particularly the high labour intensity in collecting the data – we believe that these estimates provide a useful insight and the best real estimate to date. That said, they are still a pioneering starting point and hopefully further ‘ground-up’ data collection and analysis will be forthcoming.

Table 5: Industry output by sector

Construction Industry Sector 2010	Industry Share (%)
Public Housing	4
Private Housing	13
Infrastructure	12
Public Non-housing	13
Industrial	3
Commercial	22
Housing Repair & Maintenance	16
Non-Housing Repair & Maintenance	17
Total	100

Source: Construction Skills Network (2012)

Defining freelancers:

Since our research has found that freelancers serve a unique economic function, it makes sense to provide a definition of these distinct economic agents in order to facilitate the data collection process. Based on this study and subsequent research we have derived the following definition of legitimate freelancing which was published in Burke (2012):

Freelancers are workers who hire their services on a contingent project basis where remuneration is usually output based. The cost and risk of their own

labour downtime within the project and economic inactivity between projects are borne entirely by the freelancer²³.

On this basis it is possible to provide some practical points of distinction which help categorise workers into legitimate freelance and employee categories. These are presented in Table 6. Primarily, a true freelancer should be hired on a contingent project rather than a continuous basis where they take on the cost and risk of downtime. These distinguishing core features are critical in order to enable the economic value drivers 1, 3, 5 and 6 above. In addition, one might expect to observe freelancers being paid on an output basis either in a lump sum or an implicit ballpark amount comprising the sum of day rates across a likely interval of time. We use these reference points to both collect and interpret the data.

Taylor Wimpey's Diglis Basin: Block Phase 4A BlockC3 (apartments)

We estimate the extent to which freelancers are used on the same project (Phase 4A Block C3) that was the focus of the earlier case study analysis. In order to collect this information Taylor Wimpey invited all of the contractors involved on this project to meet the author for an interview on site at Diglis Basin. Over the period June 2011 to January 2012 we managed to meet the majority of contractors on

these site visits and the remaining contractors were contacted by telephone during and after this period. Data was returned in person at the meeting or sent later by email. Data collection was completed in September 2012. This research resulted in an estimate based on the full population of contractors involved in the project. The data is presented in table 7 and indicates that roughly 74 per cent of the work days on the project were completed by freelancers. In terms of a headcount, freelancers accounted for 71 per cent of the number of people who worked on this project.

Table 6: Distinctions between freelancers and employees

	<i>Freelancer</i>	<i>Employee</i>
Term of Contract:	Project based	Continuous
Project downtime and inter-project spare capacity costs & risks:	Borne by the worker	Borne by the business
Remuneration:	Usually output based	Usually input based

Source: Burke (2012)

Table 7: Freelancers on Taylor Wimpey’s Diglis Basin Phase 4A BlockC3

TRADE	Freelancer: Work Days	Employee: Work Days	Number of Freelancers	Number of Employees
Piling	12.00	0.00	2.00	0.00
Groundworks & Drainage	1,563.00	188.00	25.00	3.00
Structural Steel	5.00	33.50	1.00	5.00
Upper floors & Stairs	120.00	16.00	5.00	1.00
Scaffolding	86.00	34.40	3.00	3.00
Brickwork	1,260.00	36.00	21.00	2.00
Windows & Ext Doors	265.00	20.00	6.00	1.00
Architectural Metalwork	0.00	5.00	0.00	4.00
Roofing	185.00	32.00	15.00	3.00
Lift	72.00	6.00	2.00	1.00
Carpentry	381.00	21.00	12.00	2.00
Electrical Installation	0.00	381.00	0.00	6.00
Plumbing Installation	22.00	681.00	2.00	8.00
Partioning & Decorating	750.00	150.00	12.00	4.00
Kitchen	0.00	62.00	0.00	1.00
Total	4,721.00	1,665.90	106.00	44.00
Percentage	73.92	26.08	70.67	29.33

In line with our definition of freelancers we also asked the contractors whether or not the freelancers were hired on a contingent project basis or not. The contingent contract outcome tallies with the case study evidence in that the contingent nature of the contract was a necessary feature of a freelance contract in order to generate its unique value added for these businesses. We also asked them to let us know if the freelancers were only paid on performance i.e. a specified fee for completion of a specific piece of work. In the construction industry this is known as ‘working on a price’. The results are presented in table 8. These show that all of the contractors who responded indicate that freelancers were hired on contingent contracts. In terms of performance based pay the 93 per cent of the contractors said that they paid freelancers on ‘a price’ (accounting for 65 per cent of all freelancers).

Table 8: Freelance contractual terms at Diglis Basin

TRADE	Freelancers working on a price (%)	Freelancers on a contingent contract (%)
Piling	100.00	100.00
Groundworks & Drainage	0.00	100.00
Structural Steel	100.00	100.00
Upper floors & Stairs	100.00	100.00
Scaffolding	100.00	100.00
Brickwork	100.00	100.00
Windows & Ext Doors	100.00	100.00
Architectural Metalwork	n/a	n/a
Roofing	20.00	100.00
Lift	100.00	100.00
Carpentry	100.00	100.00
Electrical Installation	n/a	n/a
Plumbing Installation	100.00	100.00
Partioning & Decorating	100.00	100.00
Kitchen	n/a	n/a
Percentage of businesses	92.73	100.00
Percentage of freelancers	65.09	100.00

Kier’s West Lakes Academy project in Egremont

Kier kindly afforded us the opportunity to survey the main 37 contractors on a state funded school building project following a site visit to the construction project. We used a questionnaire containing the same questions that had been used in Taylor Wimpey’s Diglis Basin homebuilding project. This was sent out to the contractors by Kier via email. A reminder email was also sent out by Kier. Subsequently, the author and an assistant rang all of the non-respondents in order to generate more replies. Finally the survey collection process finished with a final reminder email being sent by the author. This resulted in a response rate of 27%

comprising 10 businesses. The results are presented in tables 9 and 10. In table 9 we observe that 40 per cent of the work days are carried out by freelancers. This was provided by 37 freelancers accounting for 31 per cent of the total number of people working on the West Lakes Academy project for these firms. The figures are lower than Diglis Basin and this could be due sector differences and/or to the fact that government prefers the use of employees over freelancers in the building projects which are state funded.

Table 9: Freelancers on Kier’s Egremont West Lakes Academy project

TRADE	Freelancer: Work Days	Employee: Work Days	Number of Freelancers	Number of Employees
Demolition	0.00	425.00	0.00	15.00
Ground Engineering	0.00	70.00	0.00	4.50
Roofing	1,107.00	351.00	19.00	13.00
Furniture Installation	14.00	320.00	2.00	14.00
Fire stopping & air sealing	32.00	44.00	1.00	2.00
Render	330.00	495.00	2.00	3.00
Steelwork	15.00	124.00	3.00	10.00
Fire/Security Alarms	340.00	170.00	10.00	5.00
Piling	0.00	420.00	0.00	7.00
Insulation	0.00	300.00	0.00	8.00
Total	1,838.00	2,719.00	37.00	81.50
Percentage	40.33	59.67	31.22	68.78

Both the Taylor Wimpey and Kier projects’ estimates place freelancers as a major supplier of labour with 74 and 40 per cent of the work days comprising an average of 57 per cent. In terms of headcount measures the average is 51 per cent freelancers across both projects.

Table 10 needs to be interpreted with caution as 4 businesses did not answer the questions relating to contingent contracts and working ‘on a price’. This has the effect of reducing the sample size to 16% (6 firms). We think the reason for the lower response rate in Egremont compared to Diglis Basin is due to the fact that the former was an email questionnaire whereas the latter involved direct person to person contact. Nevertheless, the data in Table 10 estimates that 100 per cent of businesses hired freelancers on a contingent contract basis. It also shows a lower use of working on a price with just half of firms hiring freelancers on this contractual term (accounting for 59 per cent of freelancers).

Table 10: Freelance contractual terms at Egremont

TRADE	Freelancers working on a price (%)	Freelancers on a contingent contract (%)
Demolition	-	-
Ground Engineering	-	-
Roofing	100.00	100.00
Furniture Installation	0.00	100.00
Fire stopping & air sealing	100.00	100.00
Render	100.00	100.00
Steelwork	0.00	100.00
Fire/Security Alarms	0.00	100.00
Piling	-	-
Insulation	-	-
Percentage of businesses	50.00	100.00
Percentage of freelancers	59.46	100.00

Conclusion and discussion:

To our knowledge, these are the first micro level ‘ground-up’ project based estimates of the number of legitimate freelancers in the construction industry. They illustrate that the dominant business model of the construction industry depends on the availability of freelancers. The research only finds a legitimate use of freelancers consistent with definition outlined in Burke (2012) which captures the unique value added provided by freelancers in

the modern economy. We find an average of 57% of work days are provided by freelancers and a slightly lower figure of 51% in terms of freelancer share of headcount in the workforce. The 2 building projects which we examine also show that there is likely to be some variation in terms of the use of freelancers across different sectors of the construction industry. Of course, we still have no 'ground-up' estimates for projects from sectors comprising the remaining 74 per cent of the construction industry so further research is required in order to arrive at an industry view. That said, all the evidence so far points towards legitimate freelancing as a major engine of growth and driver of the dominant business model used in the construction industry.

CONCLUSION

Freelance workers are often categorised as a small and underperforming version of entrepreneurial owner managers. At the other end of the spectrum they are sometimes depicted as a form of exploited worker resulting from abuse of employer monopsony power.

In this paper we explored the overlooked but more central economic functions of freelancers where they are the enablers of entrepreneurship rather than the entrepreneurial agents themselves. We showed that freelancers play a key role in their own right in enabling economic efficiency through more efficient allocation of risk, enhanced productive efficiency, reduced fixed costs and financial requirements as well as facilitating market entry and greater competition. We show that freelance workers often share in the value added which they create.

Industry executives in our case study analysis highlighted that the industry business model relies on the ability of firms to use freelancers. We tested this further by doing two intensive 'ground-up'

estimates of the use of legitimate freelancers - complying with the definition of Burke (2012) - on a homebuilding and a state funded school building project. We find that an average of 57 per cent of work days and 51 per cent of headcount on these projects are accounted for by freelancers.

We argue that oversight of the importance of legitimate freelancers in prior studies can lead to inappropriate policy approaches to freelancers where they are either 'shoe horned' into employee status, classified as illegitimate economic agents, or motivated to become business owners. We show that the absence of a legitimate freelance sector of the workforce would have highly negative economic consequences; causing economic contraction, higher costs, and reduced employment as well as more highly concentrated and less competitive markets. We believe that this paper is a first but important step towards a new research trajectory focusing on the role of freelancers in business and economic performance.

END NOTES

- 1 The main remaining sectors are infrastructure, public sector non housing and private 'repair and maintenance' which account for 8%, 13% and 22% of industry output respectively (Construction Skills Network, 2010).
- 2 Waite (1998, p253).
- 3 <http://en.wikipedia.org/wiki/Freelancer>
- 4 The IRS in the USA use the following example to provide guidance on how to differentiate an electrician who is an independent contractor from one who is an employee. "Vera Elm, an electrician, submitted a job estimate to a housing complex for electrical work at \$16 per hour for 400 hours. She is to receive \$1,280 every 2 weeks for the next 10 weeks. This is not considered payment by the hour. Even if she works more or less than 400 hours to complete the work, Vera Elm will receive \$6,400. She also performs additional electrical installations under contracts with other companies that she obtained through advertisements. Vera is an independent contractor." <http://www.irs.gov/businesses/small/article/0,,id=179115,00.html>
- 5 The ONS (2010) estimates that 13% of UK employment (including public sector) in June 2009 was accounted for by self-employment. These figures are much greater at 53% for construction trades, 66% for building trades and 21% for construction operatives. Source: http://www.statistics.gov.uk/downloads/theme_labour/UKallinemploybySOCApr-Jun2009.xls
- 6 <http://www.stats.berr.gov.uk/ed/sme/smestats2008.xls>
- 7 The entrepreneurship literature finds evidence that job flexibility (in the guise of desire for independence / being your own boss) is a significant, if not necessarily the main driver of people choosing to become self-employed (Blanchflower and Oswald 1998, Burke et al 2000, and Hamilton, 2000).
- 8 These authors describe contingent/freelance worker contracts using the phrase 'nonstandard employment arrangements'.
- 9 The empirical side of this literature which estimates self-employment income as profits stems from the seminal paper by Evans and Jovanovic (1989).

- 10 The freelancer may be able to eliminate some of this risk through the use of portfolio working.
- 11 Storey et al (2005, p.1048).
- 12 Smith (1776, Book I, Chapter 1, p7).
- 13 A Senior Commercial Manager, a Commercial Manager and a Site Manager.
- 14 www.taylorwimpeyplc.com and www.taylorwimpey.co.uk
- 15 Source: Taylor Wimpey Annual Report and Accounts 2007 and 2009.
- 16 The non uniform nature of the timing and scale of downtime across specialised inputs implies that it would not be possible to completely avoid downtime by scaling up the number of construction projects.
- 17 The same approach is used when problems emerge on building sites cause disruption of the planning process and often require the entire work schedule to be shifted forward.
- 18 www.sdpplastering.co.uk
- 19 www.mvkelly.co.uk
- 20 <http://goldhillcontractingltd.web.officelive.com/default.aspx>
- 21 www.brianfell.co.uk
- 22 www.torclad.com
- 23 Burke (2012, p 15)

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