

# **SPECIALIST CONTRACTORS' VIEWS: TESTING THE NSCC STATE OF TRADE QUARTERLY REPORT RESULTS AGAINST MARKET CONDITIONS**

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Specialist contractors are employed to carry out the detailed work and the transformation of a building site into a finished building. The process is managed by main contractors. The relationship between main and sub-contractors is frequently characterised as confrontational and litigious. The challenge for main contractors is to complete their projects satisfactorily, on time and within budget. This is often achieved by exerting commercial pressures on their suppliers, including the specialist contractors. It is often said that changes in working practices have been taking place in the construction industry over the last decade. Key performance indicators tend to show improving standards. However, much remains to be done if the opinions of specialist contractors are to be taken into account. The National Specialist Contractors' Council State of Trade Quarterly Report conducts a survey of opinions and perceptions held by specialist contractors. Although the survey reports that progress has been limited as far as they are concerned, the survey result relating to interim payments is found to have little statistical significance. Nevertheless the survey is published and used by specialist contractors and does report on the views of specialist contractors in 32 different trade associations.

Keywords: interim payments, partnering, specialist contractors.

## **INTRODUCTION**

The advocates of partnering have long argued in favour of its benefits. This view has found support in a number of papers, including Barlow and Jashapara (1998), who reported that specialist contractors, working in partnering agreements, had found the experience useful as they had benefitted from sharing information and learning new techniques. More recently Beach, Webster and Campbell, (2005), have argued that there has been a shift in working practices in the construction sector. However, Mason (2006) considered the views of specialist firms towards partnering and found that their perceptions of partnering were often negative. Indeed he noted that his interviewees reported that disputes were as common as ever and partnering had not altered the nature of short-term relationships between main and sub contractors. In another paper Mason (2007) reported that specialist contractors' views tended to be clouded by whether or not they had experience of partnering.

Dainty, Briscoe and Millett (2001) also criticise the use of partnering, because it is often exploited by main contractors to reduce the profits of the specialist contractors. However, Mason (2006) argued that the negative views specialist contractors held on partnering were often down to the influence of their peers and a cynicism amongst

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contractors. At the same time others, he stated, benefited from learning something from the experience, though what that something was is not defined or discussed. Mason argued that for partnering to be successful a greater involvement of the client was required. And this is the nub of the problem.

In general when a customer makes a purchase, the supplier undertakes to deliver the goods or service demanded and in the process takes responsibility for the management of the supply chain. Indeed, it is the exploitation of markets within the supply chain that is one of the main sources of the seller's profits. Sometimes this is achieved through negotiating prices with their own suppliers and sometimes by adding value to material inputs by processing them. Negotiating prices with suppliers is one of the main functions of markets.

Naturally, relationships based solely on market forces run the risk of being distrustful if not antagonistic, rooted in the fear that the other party might engage in opportunistic behaviour (Beach *et al.*, 2005). This is precisely how markets deliver efficiencies though of course, Beach *et al.* are correct that distrust can also lead to the withholding of information and lead to additional transaction costs.

Assembly is the responsibility of the seller. Indeed, the sourcing of inputs and the technology used in the manufacture of products (or services) are invariably seen as confidential trade secrets. The purchaser of a car does not usually become involved in the technicalities of the automobile manufacturing process. However, in construction, it appears that partnering agreements often involve clients (or employers) in the meetings to manage the production of buildings and structures. Indeed, this principle is widely accepted in the construction sector. For example, partnering arrangements, such as the Project Partnering Contract PPC 2000 and other related agreements (ACA, 2011), enshrine client involvement in the process.

The public sector has also produced a set of procurement guidelines as a client of the construction sector based on the Achieving Excellence in Construction initiative, (the Office of Government Commerce, 2007). It is assumed that main contractors, who are responsible for supplying construction services need the input of their customers in order to deliver their outputs and in PPC 2000 this involvement can also be used to resolve possible disputes between main contractors and their suppliers, even though as clients they may not be familiar with the technology, the firms, the complexity and the labour issues involved. This may well be a practical response due to the nature of the construction sector and the evolving nature of projects, because work only commences after contracts have been signed. Because the sector is fragmented into a large number of separate and independent specialisms, it relies on market mechanisms to co-ordinate production. This use of markets may be stretching the concept of the market beyond what it is capable of delivering without the intervention of the client or purchaser.

Eriksson (2010) advocates a number of methods for implementing partnering agreements, some of which are seen as core requirements, including the use of open books, collaborative tools and start-up and follow-up workshops. Although these are clearly examples of good management practice, they do not address the basic contradiction of several different firms collaborating on a project in an uncertain environment competing for a share of any profits that might be generated from the project.

Nevertheless, the scepticism towards partnering, referred to earlier, may not be based on a cynicism or undue influence by fellow specialist contractors but rather the reality of the continuing unchanging fundamental economic relations found in the construction industry. Of course there have been changes in the construction industry that have altered the relationship between main contractors and their subcontractors, most notably changes in technology, but also changes in legislation, including health and safety.

If partnering and all the other movements for change in the construction industry since 1990 had been successful in changing the construction industry and relationships between the firms within it, then what criteria of success should be applied? Are the benefits of partnering shared equally? Do the costs of construction decline? Does demand for construction increase? Would profitability be improved? How would the changes brought about by partnering affect profit margins? More specifically, are the profit margins of specialist contractors rising or falling as a result of these changes?

Specialist contractors are employed to carry out the detailed work and transformation of a building site into a finished building. The process is managed by main contractors. The relationship between main and sub contractors is frequently characterised as confrontational and litigious. The challenge for main contractors is to complete their projects satisfactorily, on time and within budget. This is often achieved by exerting commercial pressures on their suppliers, namely the specialist contractors. Because of dissatisfaction with, and criticism of, current work practices, notably the Latham (Latham, 1996) and Egan reports (Egan, 2004), there has been much discussion about supply chain management, partnering, demonstration projects and key performance indicators. It is often said that changes in working practices have been taking place in the construction industry over the last decade. Key performance indicators of industry performance, respect for people and environment from 2005 to 2010 published in Chapter 16 of the Construction Statistics Annual (ONS 2011) tend to show improving standards year on year, though on the predictability measures, health and safety or profitability. The same applies to the KPIs for years before 2005 in earlier Construction Statistics Annuals.

If changes in practice had any impact in the period from 2000 to 2009, one would have hoped that the benefits might have been shared with specialist contractors. Indeed, this might well have been the case. However, taking the issue from the perspective of specialist contractors their views reveal their subjective perception of the relationship with main contractors is somewhat different. One aspect of practice has been examined here namely the payment of interim payments by main contractors to subcontractors from the point of view of specialist contractors. If gains from new methods of working had been achieved between 2000 and 2009, then one might expect to see these gains reflected in improvements in the behaviour of main contractors towards their specialist contractor suppliers that would be reflected in the perceptions of the specialist contractors. This study examines specialist contractors' perceptions of payment patterns between 2000 and 2009.

## METHOD

The views of specialist contractors are sought on a quarterly basis in a survey carried out on behalf of the National Specialist Contractors' Council (NSCC), a federation of construction industry trade associations. The NSCC State of Trade Quarterly Report covers the 32 specialist trade organisations in the NSCC, representing approximately 7,000 firms. NSCC member organisations include the Contract Flooring Association,

the Council for Aluminium in Building, the Federation of Piling Specialists, the Glass and Glazing Federation, the National Federation of Roofing Contractors, and the Painting and Decorating Association.

This survey is published by the NSCC for its members. It is not based on a random selection of firms or a systematic stratified sample. As there are a number of important methodological weaknesses, it is not possible to eliminate bias.

Nevertheless, these may be viewed as systemic limitations in the survey and therefore can be assumed to be built in and apply equally to every quarterly result. Hence, it can be argued that any inbuilt bias would still reflect changes in the industry over time. If main contractors had been influenced by the changes brought about by more enlightened management approaches such as partnering, then these changes might be expected to appear in trends in the NSCC survey.

Until 2007 a quarterly postal survey was conducted. Since 2007 the survey has been conducted on-line, covering a number of areas of activity, including: enquiries, orders, labour availability and change, labour, capacity and workload planning, price and margin analysis, procurement, payment periods, retentions, contract abuse, and adjudication. The survey consists of approximately 700 member firms belonging to the different NSCC affiliated trade associations. The annual response rate is approximately 15%. This compares favourably with Mason (2006), who used the Confederation of Specialist Contractors to find 30 firms, who returned completed questionnaires during 2005-6 although he also interviewed 10 of these firms.

Although no interviews were conducted as part of this study, firms are invited to pass comments in open ended questions on the on-line NSCC survey itself.

The statistical analysis that follows is aimed at establishing the statistical significance of the survey results themselves. It is also concerned with the survey's reliability in terms of the conclusions that can be drawn about the perceived treatment of subcontractors from the subcontractors' point of view. After all, the 2012 Construction Commitments include provision for equitable cash flow for all those involved "with fair payment practices, such as payment periods of 30 days, no unfair withholding of retentions, project bank accounts and mechanisms to encourage defects free construction" (Strategic Forum, 2006). It therefore might be expected that fair payments could be tested in terms of the speed of settling interim payments.

The findings below are taken from the first quarter of 2000 to the last quarter of 2009 of the quarterly survey of the NSCC State of Trade Reports. The graphs and trend analysis based on a linear regression are based on the annual third quarter data alone. The regression analysis makes use of all the quarterly data.

The regression analysis is based on the first differences of the NSCC data and the first differences of contractors' quarterly all work at 2005 constant prices, seasonally adjusted taken from Table 2.5, Contractors' output (ONS, 2011).

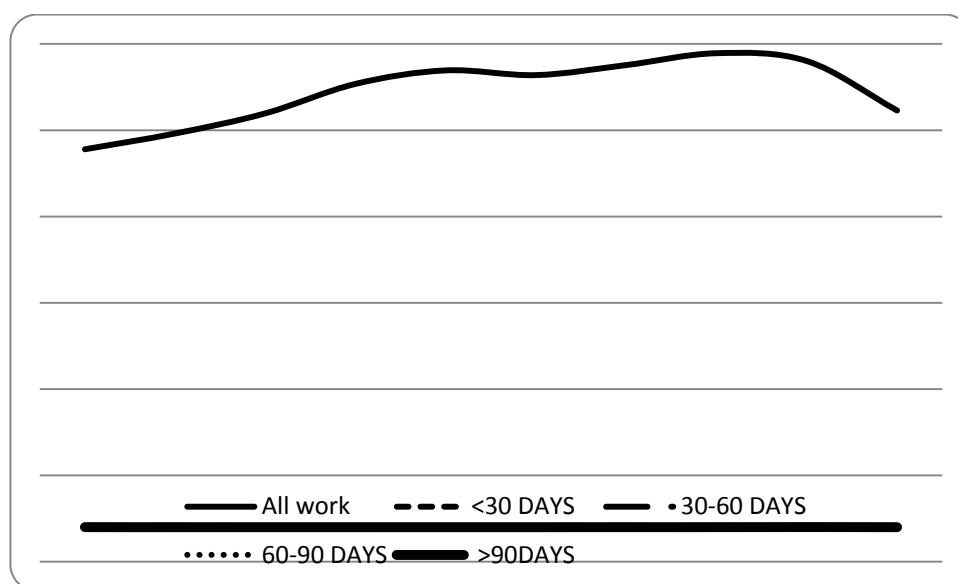
In order to test the statistical significance of the findings of the NSCC quarterly data, the payment period for interim payments was selected as a proxy measure of improvements in the management of subcontractors by main contractors according to the perceptions of the subcontractors.

It could be argued that the perception of specialist contractors was influenced by market conditions. The null hypothesis was that it was not.

The results were based on construction output and concurrent specialist contractors reported perceptions and specialist contractors' perceptions lagged by 1, 2, 3 and 4 quarters. The coefficient of regression, R<sup>2</sup>, is used to show to what extent economic conditions in the construction market account for changes in the responses of the specialist contractors.

## FINDINGS

Taking Figure 1 the value total construction output is given in £m on the left axis and the actual percentage of respondents reporting interim payments received in less than 30 days, 31 to 60 days, 61 to 90 days and over 90 days is given on the secondary axis. Although it is possible to argue that payment practices were worsening for the third successive quarter in 2009 (Nichol, 2010), Figure 1 does not support the view that there was a longer term downward trend and that payments were therefore being made more promptly by main contractors. The majority of interim payments, between 70 and 80 per cent, were settled between 30 and 60 days. This was the case each year between 2000 and 2009. Although it is true that only 2 per cent of specialist contractors received payment within 30 days by the end on 2009, it is also reasonable to point out that a similar small percentage took longer than 90 days. Indeed according to specialist contractors, the percentage of specialist contractors reporting interim payment periods of between 60 and 90 days also declined to the same percentage as measured in 2003.



Note: Each year the data refers to the 3rd quarter only

Source: Annual Construction Statistics, ONS

NSCC Specialist Contractors Survey for the NSCC Quarterly State of Trade Reports

Figure 1: Specialist contractors reporting length of delay in interim payments and contractors' all work output

Although the time series illustrated in Figure 1 purport to record interim payment periods, in Table 1 no regressions of construction output and contractors views on interim payments were significant at the 95 per cent confidence level. Therefore, we conclude that the state of the construction market did not affect specialist contractors' views regarding interim payments taken as a proxy for the relationship between main and subcontractors. This might imply that non-economic factors determine the perceived treatment and behaviour of contractors towards their specialist suppliers.

Simply increasing demand for construction does not necessarily lead to improved relations between main and subcontractors.

*Table 1: Interim payments summary t-test scores and P-values*

Days		No lag	1q lag	2q lag	3q lag	4q lag
< 30	t test	-0.1306	0.4047	0.3576	0.5352	1.2278
	P value	0.8968	0.6881	0.7228	0.596	0.2282
30 – 59	t test	-0.3607	0.6975	-0.5967	-1.1797	0.2972
	P value	0.7208	0.49	0.5545	0.2463	0.7682
60 – 89	t test	0.3657	-0.8826	0.5188	1.222	-1.6988
	P value	0.7167	0.3833	0.6072	0.2301	0.0988
> 90	t test	0.6465	-0.1567	-1.2957	-0.4084	1.082
	P value	0.522	0.8763	0.2036	0.6855	0.2871

*Table 2: R2 of specialist contractors' reported interim payment delays and Contractors' All Work output lagged by up to 4 quarters*

Number of days	No lag	1q lag	2q lag	3q lag	4q lag
< 30	0.0005	0.0045	0.0036	0.0084	0.0437
30 – 59	0.0035	0.0133	0.0101	0.0393	0.0027
60 – 89	0.0036	0.0212	0.0076	0.0421	0.0804
> 90	0.0112	0.0007	0.0458	0.0049	0.0343

Even using time lags to explain specialist contractors' perceptions does not produce any significant results. In Table 2 quarterly changes in the number of days taken by main contractors to pay subcontractors do not appear to be affected by the state of the construction market. Interpreting the results of Table 2 would indicate that less than 5 per cent of the change in the reported interim payment delays can be attributed to changes in the market except for those experiencing severe delays of over 90 days following a change in construction one year earlier. Even in this case the result might have been affected by long standing disputes rather than the state of the market. It is clear from the very low R2 values that the responses of specialist contractors on the subject of payment practices of main contractors is not strongly related to changes in the workload or the state of the construction market.

## DISCUSSION

Dainty, Briscoe and Millett, (2001) ask leading clients to take responsibility for changing the attitude and culture within the supply chain in order to improve the performance of the construction industry. Mason (2007) also appeals to clients to solve the problems of the construction production process. t have expertise.

Unfortunately the findings here are inconclusive. It would appear that payment practices have not changed significantly from the specialist contractors' point of view, but the data taken from the NSCC's Quarterly State of Trade Survey does not demonstrate that the results of the survey are statistically significant.

Perhaps greater integration of the construction process could resolve many issues but this would also depend on higher profit margins in construction than at present. As long as the construction market relies on competitive tendering for work with the lowest bid invariably winning, there are as few opportunities to improve working practices as there were at the time Bowley (1966) described the construction industry in the 1960s. It may well be that technological changes will affect the way buildings are put together and innovation in construction will come about when manufacturers

and material suppliers begin to research and develop new ways of fixing and assembling their components that rely more on off-site production and planning than on on-site skills.

## CONCLUSIONS

If in the past there were trends toward improving relationships between main and subcontractors, Love (1997) argued that there was still much room for improvement. Change in construction is generally slow and incremental. It is therefore difficult to see if there are any real changes in the construction industry even over a ten year period. Nevertheless the basic economic relations have remained the same and it is this that underpins the methods used by main contractors, their treatment of subcontractors and outcomes of projects and accounts for the lack of change in performance of specialist contractors according to the data and perceptions reported. This study would appear to support the view that payment patterns have not been affected as far as specialist contractors are concerned.

However, perhaps the more important conclusion to be drawn from this study is that specialist contractors need to improve their data collection. Otherwise, ten years after Greenwood (2001) concluded that, a few contractors were flirting with sub-contractor partnering, while for the majority it was business as usual. The findings here confirm that not a lot has changed in the reported views of specialist contractors.

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