THE LABOUR NEEDS OF EXTRA HOUSING OUTPUT: CAN THE HOUSEBUILDING INDUSTRY COPE

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EXECUTIVE SUMMARY

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HOME BUILDERS FEDERATION
constructionskills

FOREWORD

"The government is committed to increasing housing supply. Scenarios suggested in the 2004 Barker Review of Housing Supply point to the need for an annual UK output of around 250,000 to 300,000 dwellings a year. This significant increase over current annual levels (around 190,000) will only arise if sufficient residential development land is made available in the appropriate places via the land-use planning system. Nevertheless, the question remains of whether there will be sufficient skilled labour available to build the planned dwellings, especially as the construction industry as a whole is experiencing unprecedented levels of demand.

"This report investigates this issue by reporting the results of an extensive survey of housebuilding firms' labour needs and subsequent research into the numbers of skilled trades and office based staff required for expanded home building. It concludes that labour shortages are unlikely to hold back new housing nor unduly raise costs. Some increases in medium-term construction industry training intake are advisable and more focus should be put on the housing industry in training programmes for construction trades and professionals alike. We look forward to working together on these initiatives as part of our overall skills strategies."

John Cowley
CITB-ConstructionSkills

John Slaughter
Home Builders Federation

EXECUTIVE SUMMARY

The housing supply problem

Housing affordability and the ability of many households to meet their housing aspirations has worsened significantly over the past decade. House prices boomed but supply failed to respond. UK housing supply has been weak in face of increases in market activity for many decades, but post-1995 was by far the poorest supply response. While it is difficult for supply to respond quick enough to limit price booms altogether, more supply responsive housing systems tend to have lower long-term increases in real house prices compared to poorer response ones.

The main cause of the poor supply responsiveness has been long recognised by industry and academic commentators as arising from land-use planning system constraints. This conclusion regarding overly restrictive planning controls was accepted by the 2004 Barker Review of Housing Supply, published by HM Treasury.

The proposed solution would primarily mean raising private housebuilding output. There would also be some additional social housing, although this is likely to be limited as the government has recognised that most social aspirations are for owner occupation and that the private sector now plays a significant role within rental housing.

Fig 1: House price booms & supply responses 1960s to 2002

House and land prices boomed from 1995-2004

Annual % change in real house and land prices England 1970-2003

...but supply did not

UK completions 1965-2003

Source: ODPM

Most of the new additional housing would be in Southern England (London+SE+East), which would see its share of housing output rise from less than a third of the national total to over a half.

Will the current market downturn scupper the programme?

The housing market has slowed down markedly over the past year, with prices stagnant and transactions well down. In such a cooled market, housebuilders may well struggle to meet current output targets. This may lead to the view that the extra housing is no longer needed. However, such an interpretation would be mistaken. The current market downturn reflects short-term 'cyclical' behaviour. Meanwhile housing shortages are likely to grow over the long-term unless the basis for higher output levels is put in place. It takes time to convert hoped-for 'planned dwelling targets' into actual new homes, so the Barker agenda itself is a long-term strategy.

The time horizon of the increase in housing output, consequently, is 3 to 5 years plus. Such a long-term perspective also underlies the methodology of this report.

Will housebuilding industry face labour shortages once land supply is improved?

The building of as many as 120,000 extra private sector homes per year in England will require a large increase in the housebuilding workforce. The labour market as a whole currently exhibits no slack and construction demand is at historic highs, especially in the Southern English areas where the additional housebuilding is likely to be concentrated. Are labour shortages likely to hold back housing supply?

Capacity constraints were a concern in the Barker Report. The superficial evidence is strong. There is an endemic shortage of skilled construction labour. Reports of skills crises have occurred at frequent intervals for 50 years or more. The construction industry, of which housebuilding is a part, as a whole employs 1.2-1.4 million people, around 8% of the UK's total workforce, most of whom are skilled. The ghost of the early 1990s construction recession has also left its imprint on the workforce. Few entered the industry then, leading to a 'missing generation' in the current age profile of the workforce. That recession also affected expectations about career prospects, with lingering, excess pessimism about market volatility.

One of the aims of this report is to investigate this issue in depth, but it is important to recognise that an overly-pessimistic view of skills shortages is likely to be misplaced. For example, the intake of new entrants to skills programmes is currently quite good. This reflects the fact that the labour market in construction and housebuilding is generally efficient. There is no evidence of construction work being significantly held up by labour shortages in recent decades. In the main, firms respond to labour shortages by offering higher earnings and those induce an extra supply of workers with the appropriate degrees of competence.

Furthermore, construction has an extensive network of bodies planning and organising training, such as CITB-ConstructionSkills and the professional institutions, that aim to ensure a pipeline of new skilled entrants.

Inflows of skilled labour to one particular activity, like housebuilding, react to relative earnings. The construction labour market is like any other, with large numbers of workers leaving the industry in any year and equally large volumes of new entrants joining it. The new members of the workforce will go into areas where demand is greatest and others will switch from less well-paying sectors.

An increase in the importance of housebuilding will lead to a greater preponderance of construction workers involved in the sector. However, the scale of the change should not be exaggerated. An increase in housebuilding on the scale suggested by Barker should increase the construction workforce by around 10% at a maximum, spread over the course of several years, though in reality the increase is likely to be far less, as this report shows.

Key conclusions of this report are that the numbers of extra people in the housebuilding workforce are likely to be significant and provision needs to be made in training, but in relation to the overall scale of the construction industry their impact on labour shortages is likely to be limited.

Aims of this research

The research was initiated by CITB-ConstructionSkills and the Home Builders Federation (HBF). UPE Consultancy Ltd was asked to undertake an investigation on the impact of labour skills and training of increases in housebuilding commensurate with the Barker agenda.

The research was organised into four sequential parts.

- Find out current company views on skills
- Develop understanding of industry labour issues
- Estimate current and future housebuilding labour needs
- There are no current official housebuilding labour force data, so everything has be estimated
- Need to make key assumptions about both the present and the future
- Evaluate implications for training.

In the survey of housebuilders, 20 firms that were responsible for around 30% of annual housing output were interviewed. While concentrating on the larger private firms, social housing and smaller firms were also included and interviews encompassed firms active across all the areas of Great Britain. Firms were able to report the labour recruitment difficulties of any subcontractors they used as well as with their own directly employed staff. This information is important because most on-site manual trades are employed on a subcontract basis in housebuilding.

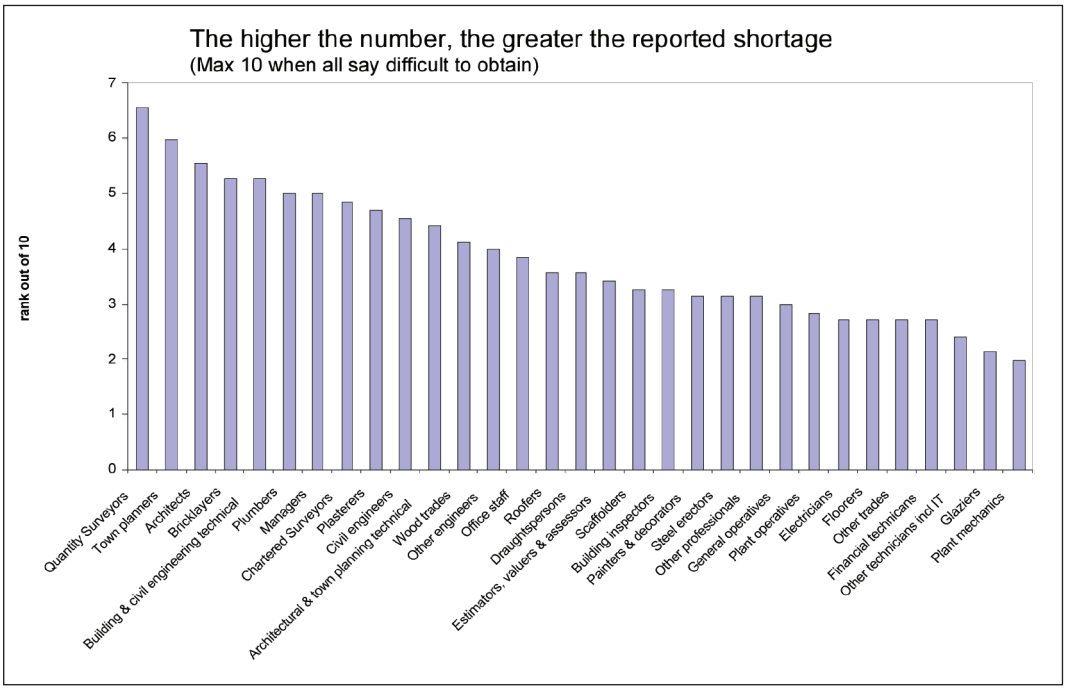
Current key labour shortages

Results from the firm survey are summarised in the figure in Box 2. The headline results are:

- Trade skills in greatest shortage are the core housebuilding ones of bricklayers, roofers, plumbers and plasterers. Carpenters and painters were also not easy to recruit.
- The non-manual shortages are
  - Site managers
  - Quantity surveyors
  - Other managers (e.g. production directors)
  - Other professions (e.g. architects and town planners)
- Shortages are greatest in London & South East. This area tends to import significant numbers of trained craft operatives and office-based staff from other regions and from abroad. Survey respondents reported an easing of some skill shortages in the South East during 2004, particularly with regard to bricklayers.
- No respondent said labour shortages actually held back output

Despite identifiable recruitment problems, many firms reported that most occupations could be recruited with relative ease providing that at least the going wage/salary rate was paid. When explicitly asked, all firms said that they were not holding back output because of labour shortages. Instead, all were keen and able in terms of production capacity to expand significantly the number of dwellings they were producing, despite a softening in the housing market at the time of the survey. Instead of labour availability, they virtually unanimously identified land shortages, planning constraints and associated delays as the key constraints on producing more housing.

Fig 2: Which type of labour is most in short supply?



How many in the current housebuilding workforce?

There are no available data for the number of people working in housebuilding, so estimates had to be made using information gathered in the firm survey.

- The best estimate of the current housebuilding workforce, including office staff as well as site operatives, is 285,000 people
- With UK housing output currently at around 190,000 annually, this gives a central estimate of labour inputs at 1.5 persons per dwelling.

How many people would be required in the future?

First Take: assuming the future will be the same as today

The estimate that it takes 1.5 people to build a dwelling leads to a straightforward estimate of the size of the housebuilding workforce needed to build Barker level targets.

- An output level of 250,000 homes requires a housebuilding workforce of 375,000 people
- An output level of 300,000 homes requires a housebuilding workforce of 450,000 people
- This is roughly 33% and 60% more than at present, and
- Approximates roughly to housebuilding growing from a fifth to a quarter or a third of the whole construction labour force (assuming a constant total size for construction).

The report gives a further breakdown by occupation into 15 trades and 13 office-based job types.

These numbers are high and would be likely to put considerable demands on available skills and training resources for some key occupations, such as bricklayers, site managers and quantity surveyors. However, these estimates are maximum ones. Potential productivity gains are likely to diminish the real labour needs significantly.

Second Take: impact of productivity improvements

The report identifies several areas where there is significant potential for increasing productivity over the current average in housebuilding. Some are one-off improvements in labour utilisation associated with adopting the best of current practices for the additional housebuilding, others reflect long-term productivity increases.

There is some scepticism about the possibility of the housebuilding industry being able to improve its productivity. This view is generally misplaced. Housebuilding - and construction as whole - cannot achieve the huge annual productivity gains of some industries, like computing. The nature of its products and site-based work processes are an important influence and, after all, it is a mature industry. Yet this does not imply no change at all. Precise measurement of productivity change is difficult because of the limited available data and variability of housing products. Even so, it is advisable to assume some degree of productivity change.

Six areas of potential productivity improvement are identified. The first three are significant one-off potential productivity gains and the second three identify long-run dynamic areas of improvement.

1.Types of builders taking up extra output

Currently there are many smaller, frequently under-employed, housebuilding enterprises that build around a third of new dwellings. They are likely to decline in relative importance as the housing boom moderates and probably will be providers of only a small proportion of the extra housing built.

2. Focusing on present scale economies

Evidence from the housebuilders survey, undertaken as part of this research, indicates that volume builders (→ 500 units p.a.) probably build at around 1.2 persons per dwelling, rather than at the 1.5 industry average. There are currently around 35 of such firms. They build either at a regional or national level and are likely to be the main providers of the extra housing output.

3. Higher work intensity by trades

The housebuilders survey identified substantial labour turnover in booming regions and a reluctance by many trades people to work a full week, especially in the areas of greatest labour demand. As the current boom ends, but higher earnings remain on offer, trades people should start to move around less and to work longer hours (as the effect weakens of a 'backward-bending' labour supply curve caused by current boom conditions). If, for example, the current housebuilding trades labour force each worked 5% longer hours (e.g. 1.9 extra hours on a current 38 hour week), that would save the need for 13,000 additional workers to build 250,000 dwellings and 16,000 to build 300,000.

4. MMC and other technical and managerial driven improvements in productivity

So-called modern methods of construction (MMC) and other general improvements in building processes suggest that continuous increases in housebuilding labour productivity are likely in the future.

5. Productivity impact of higher volumes

The stimulus of higher volumes - and, possibly, more inter-firm competition with greater land supply - should have dynamic, positive effects on production methods, as has occurred in many other industries.

6. Improvements to planning process

As part of the post-Barker reforms, a more market-responsive planning system should improve labour productivity directly and indirectly.

The potential for labour-saving changes in production, therefore, is substantial. Box 3 makes some final estimates of extra labour requirements. It illustrates the importance of taking into account plausible productivity improvements. The impact of the six productivity improving items listed above is shown

separately for plausible productivity gains (with the exception of the workforce working longer hours, where estimates have already been given).

It is difficult to forecast precisely which productivity improvements are likely to occur. If all of the suggested productivity gains occurred, this would require a negligible increase in the housebuilding labour force at the 250,000 dwellings level and around an extra 50,000 labour force at the 300,000 level. For the final estimates of total labour demand, it was assumed that only a modest 2% annual increase in labour productivity would occur. This leads to labour force increases of roughly 40,000 and 100,000 at the two potential dwelling output levels. A breakdown by occupation is given in Appendix 5.1 of the Report.

Of course, productivity improvements are a dynamic process, so that after a decade, for example, even at relatively low rates of productivity improvement the labour force needed declines notably. These numerical illustrations indicate how significant productivity assumptions are to labour requirements forecasting in this area.

Fig 3: Final estimates of extra housing labour requirements

Assuming a five year period, while housebuilding levels are raised to post-Barker levels

	Thousands	
TOTAL HOUSEBUILDING	250	300
BASELINE EXTRA LABOUR (at 1.5 persons per dwelling)	90	165
REDUCTIONS IN EXTRA WORKFORCE CAUSED BY POTENTIAL PRODUCTIVITY GAINS		
minus use of larger builders only for additional output	18	33
minus 2% innovation productivity improvement pa for five years*	35	42
minus 1% better planning-related productivity improvement pa for five years*	17	21
minus 1% higher sustained volumes productivity improvement pa for five years*	17	21
TOTAL POTENTIAL PRODUCTIVITY BENEFITS	87	117
TOTAL EXTRA LABOUR REQUIREMENTS IF ALL IMPROVEMENT FACTORS OCCUR	3	48
TOTAL EXTRA LABOUR REQUIREMENTS assuming only an 80% share for larger firms in extra output & total workforce annual productivity rises of 2% only	41	97

* Affects whole of housebuilding labour force

Where will the extra workforce come from?

To meet the extra demand, labour supply is likely to come from three sources:

- Some of the additional workforce will be diverted from other sectors of construction
- Some will come as skilled building workers from other countries
- Some will be new UK-based entrants to the industry, predominantly from schools and colleges.

The construction industry is currently at a cyclical peak. Moreover, productivity in construction is likely to influence labour demand in other sectors as well as housebuilding. Both trend and cyclical factors suggest that in the medium-term there might be some possibility of switching labour resources from other construction sectors into housebuilding. This probably would not be a direct transfer of workers between sectors, though this is feasible in principle. More likely are changes in the construction sectors into which new skilled personnel enter, with more going into housebuilding.

Furthermore, construction earnings are considerably higher in the UK than in some other EU countries. Permanent and temporary migration from elsewhere in the EU should, therefore, have an influence on available labour supply, though there may be some training issues involved in their use.

Again, it is uncertain whether any of these developments will actually occur. However, it is reasonable to expect some of them to. A conservative estimate might be 20,000 skilled people from other construction sectors or overseas spread evenly pro rata across the occupations. The net training requirements of extra housebuilding output need to be adjusted downwards by such a figure.

Taking account of already trained workers (who might need some relatively minor additional training for housebuilding) leaves a best broad estimate of 20,000 and 80,000 new UK entrants required to expand housebuilding to 250,000 and 300,000 respectively.

These numbers are substantial but not impossible to achieve. So, while training issues are important in the expansion of housebuilding, it can be concluded at the same time that skills shortages are unlikely to represent a barrier to expansion of the housebuilding industry.

Furthermore, it is important to recognise that even in the unlikely event that these new entrants are not forthcoming, this should not constitute a resource barrier to additional housebuilding. Instead, market forces are still likely to make the labour available by redirecting it from other construction activities. The reasoning is as follows. An increased demand for construction labour will raise its price. This will squeeze out the most price elastic demands for construction work at the margin and, by doing so, labour demand and supply will be brought into balance. However, those marginal demands are unlikely to be in housebuilding but other areas of construction demand, given the relatively good returns earned by producers of housing. Nevertheless, the outcome would be somewhat higher overall labour costs for the construction industry as a whole. It is consequently advisable to try to expand training to moderate any such potential effects.

Implications of extra housebuilding for training

The analysis of housebuilding labour requirements suggests the need for additional training capacities and adjustments to current training programmes to cope with the planned increases in housebuilding. The precise numbers of additional training places required depends on the views taken of likely change within the housebuilding industry, their impacts on labour productivity and skills mixes, and the future of labour demand in other sections of the construction industry.

1. Manual trades

The largest additional requirement is for bricklayers, followed by wood trades, plumbers and painters. Additional labour is required in other trades as well. There is also a need to identify sub-specialisms within each trade that focus on the skills specifically required in housebuilding.

2. Management and office-based occupations

Given the number-of-active-sites driven nature of private housing output, it may be more difficult to generate productivity improvements in these occupations. Managers, in particular, will be needed in large numbers. Almost 30,000 extra are identified in the higher estimate for 300,000 dwelling units, many of whom will be site managers - although productivity gains are likely to reduce that requirement.
Many site managers come up through the trades but, in future, more might come via college or university routes as the share of young people passing through further and higher education increases and as the skills requirements of site management grow, especially on larger and more complex sites. Current provision for site managers probably needs significant expansion.

3. Professional staff

The numerical need for extra professional staff is far less than for managers and trades. Even so, they have been identified as being in particular short supply currently, especially quantity surveyors. One issue that may need further detailed investigation is the precise skills required of professionals in housebuilding. Many present quantity surveyors, for example, do not have full RICS level accreditation. It is debateable how many will need such levels in the future.

4. A greater focus on housebuilding in training and construction education

Housebuilding as a potential employment area is frequently not focused upon in many construction courses. Most construction management textbooks and the research that underlies them, for example, concentrate on larger non-housing projects and contracting/project management. Yet, these areas are only relatively small proportions of the actual jobs in construction. As housebuilding grows in relative importance, the significance of it as an end point for trainees should be incorporated more into learning programmes.

5. A greater focus on housebuilding in professional training

Professional training suffers from a housebuilding blindness. Planning courses, for example, tend to treat housing developers as the opposition rather than integral to land-use development. In depth understandings of how housebuilders actually operate as productive entities, or of how housing and land markets behave, is generally no more than a token requirement in most planning courses, despite the importance of market-based housing activity to the planning process.

Professional training in general, furthermore, does not support the notion of careers as part of multi-disciplinary teams, which again means they fail to meet the needs of the housebuilding industry. Elements of cross-disciplinary professional knowledge and work experience, perhaps, should feature more strongly in professional qualification courses and requirements.

6. Whole life potential for career entry

Several builders in the UPE housebuilders survey highlighted the fact that a career route into housebuilding was primarily a choice made by teenagers. Older people had limited possibility of refocusing their interests and careers towards construction and housebuilding, which is unfortunate. Greater training access or career routes for older ages might also help to improve the labour force gender balance and entry routes for minority ethnic groups.

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CITB-ConstructionSkills, CIC and CITB(NI) are working in partnership as the Sector Skills Council for Construction