

# Economic Prediction and the Planning Process

A contribution to the current debate about regional planning for housing need after the recession

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The links in the chain between demographic change, economic development and the planning process are complex and, at times, controversial.

Factors such as migration patterns, housing provision and economic growth and job creation are affected by and related to intricate feedback mechanisms that frequently weaken understanding and raise argument.

Against this background, this briefing has two parts.

- First, it provides interpretation of the SW Growth Scenarios (Oxford Economics June 2010) currently being used to amend planned housing numbers by many authorities across SW England.
- Second, in appendix, it establishes a framework for approaching economic foresight in relation to planning.

## South West Growth Scenarios - Oxford Economics June 2010

The Oxford Economics report for South West RDA and SW Councils published in June 2010<sup>1</sup> was produced to answer questions about what the new outlook for SW economic performance might be in the event of the financial crisis, policy tightening and the need to rebalance growth. **It assumed that, in the long run, the world would not necessarily return to pre-recession norms.**

It was not produced, per se, as a basis for setting future housing numbers. This would require more than extrapolation just based on economic growth. It would need to include more detailed demographic and social structure analysis, as well as historical and current perspectives on structural and cyclical developments in the housing market itself, particularly the present housing 'gap' and aspirations based on real incomes growth, regulation and taste.

To turn growth scenarios into planning policy, one has to consider the sequence of growth rather than a simple average rate over time because the latter will be affected negatively by the current downturn. Also, the latter will not consider the prospect that the productivity drivers (resource efficiency, investment, skills, innovation, entrepreneurship and competitiveness) and employment growth will bolster future growth potential rather than diminish it.

Thus, whilst the Oxford report suggests a long term average of 2.0% per annum real growth as a central figure for 2010-2030 in the SW region, this reflects an initial negative assumption about future development and does not reflect:

- the change in future growth prospects even within this "what if some capacity is permanently lost" assumption – with a negative sequence in the early period, it takes

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<sup>1</sup> <http://economy.swo.org.uk/publications/simulations-projections-and-forecasts/sw-growth-scenarios/>

stronger growth later to get this average – higher growth later is what needs to be planned for;

- the prospect for “crowding in” and efficient factor substitution and creative destruction that is implicit in the economics and, indeed, the current government’s approach to development – technological and other developments that raise the long term growth potential of the economy should not be ignored over a twenty year horizon
- Planning would be better based on the “high tide” of growth (2.5% p.a. in Oxford’s terms) if the costs of under-planning are to be avoided.

The key to this is being clear about the different periods being covered. The central 2.0% real average growth rate is the combined outcome of:

- negative growth during the recession and low growth for several years either side of the recession;
- a period of higher growth correction at 2.6% between 2010 and 2020; and
- a return to a lower trend of 2.1% between 2020 and 2030.

Oxford’s interpretation of events for the “twenties” (third bullet above) is pessimistic and not, in isolation, a secure basis for planning policy. If planning is based on a low growth scenario, higher growth will create severe market distortions when they occur. Planning ideally needs to recognise this and be based on a series of “what ifs” rather than single point estimates.

Moreover, there is not a simple arithmetical relationship between a particular growth rate and the need to build new housing. (As we have just seen, a 6% fall in output during 2008/9 due to recession does not mean a 6% drop in housing need over the medium term.) There is a danger that the South West’s historical under housing provision is exacerbated if planning figures are linked solely to a particular low “average” growth rate scenario. In turn, this tends to create higher carbon outcomes in terms of commuting and extended travel to work areas and negative social externalities related to housing affordability.

Translating this into housing demand is never straight-forward because the economic growth component is presumably thought to be “nil” until the “output gap” is closed: the economy can recover to some degree simply by bringing back into use resources, including people, that are already available but not being used. The nature and size of the output gap, however, is very uncertain because an unknown proportion of these unused resources may never come back into use and some may be depreciated. If people are permanently discouraged, de-skilled or choose to retire, they will need to be replaced by new workers as the economy recovers. These “entrants” will have different skills and experience. In essence, absolute and relative productivity changes over time are a crucial variable in relating economic growth to planning for housing.

The other question is the starting point, in that some of the gap between housing supply and demand that existed before the recession has not been removed. One unknown here is the net number of people, if any, who will have left the region during the downturn. Oxford Economics’ take on this is that the rate of in-migration does fall over the recession but it does not turn negative, chiefly because the region’s relative attractiveness for migrants has not necessarily

diminished relative to the alternatives. If that is the case, then future housing growth needs to be greater than a point relationship with economic growth would suggest in order to clear the extant back-log.

Taking at face value Oxford's growth rates of 2.6% for ten years followed by 2.1% for the next ten years, the total real growth over twenty years would be 59%, equivalent to a compound annual growth rate of 2.35% over the whole period. For comparison, Experian's current projection for the South West is 2.5% for the first five years followed by 2.4% for fifteen years: this gives total real growth of 61.5%, equivalent to a compound annual growth rate of 2.42% of the whole period. Given normal confidence intervals, these both accord with the view that 2.4%-2.5% is a reasonable area for the central growth rate going forward. Nevertheless, the expectation must be retained that rates higher than this will be achieved at times, with a significant probability that the ultimate average is above this range.

Furthermore, by comparison, the "old" central rate of 2.8% growth rate would equate to 74% total growth over twenty years. So, Oxford's outcome is about 80% of the pre-recession trend growth view. In simple terms, even if we accept the Oxford figures at face value for planning, it can only justify reductions in housing targets of up to 20% and that only for the more discounted future. Moreover, this relates only to that component of house building which is directly related to alternative economic growth rates and productivity rather than the other factors in the socio-economic determination of new housing demand that are the foundation of housing need.

These include:

- non-economic population flows that vary within the region according to, amongst other things, urban-rural differences
- household formation, age distribution and longevity
- social policy approaches to affordability and quality

There are feedback linkages between economic and non-economic factors but, broadly, economic factors such as growth, could well account for only between 20% and 40%, depending on area.

Finally, if the 2.1% rate assumed for the "twenties" is too pessimistic, the reduction of housing numbers would be significantly smaller still. On this basis, it is probably difficult to justify changes to existing target housing numbers of more than 5% - 10% solely as a response to the change in economic outlook.

Even with this level of adjustment the risk is that this exaggerates the change in UK economic and housing relationships because demographic and social drivers of demand largely remain intact. Using the percentages above suggests between 4% and 6% reductions are justified by the evidence.

## Key Messages

The Oxford Economics paper provides a sound analysis directed at answering questions about how the downturn and policy changes now underway might create more subdued regional economic development.

In other words, the assumptions of less buoyant economic and demographic growth for twenty years are built into the work because, at the time of commissioning, that is what the clients wanted Oxford Economics to investigate. The central view they show, therefore, is not necessarily the “best guess” or maximum likelihood outcome.

More importantly, it is not a sufficient tool for planning, especially with regard to housing numbers. A deal of caution should be applied to hanging the arguments in support of such numbers on simple growth assumptions. A more rounded approach might be summarised as:

- Demographic change implies a growing demand for new housing going forward across SW England, regardless of the economic growth rate average achieved within the likely range (1.5-3.0% per annum).
- There is already a backlog of unsatisfied, ineffective demand in the region, which distorts a range of behaviours linked to employment, commuting, affordability and cohesion.
- In the short term, economic and employment growth will be restrained below pre-recession experience because of government policies and ongoing crisis adjustment.
- Current policy, however, is designed to improve sustainable growth and job creation rates in the longer run (including efforts to encourage more living close to the workplace). When that kicks in, growth potential is expected to be higher than before. Whether the South West gets the growth sooner or later, it still gets it - the broad scope of housing need is unaffected and planning policy should reflect that.
- A return to real incomes growth will generate fresh demands for housing, including multiple home ownership, formation rates, dependency ratios and new unit size mixes.
- Even the modest growth forecast in Oxford’s work for the 2020s, implies much smaller reductions in house build numbers than several SW Local Authorities and their advisers are calculating at the present time. A 29% reduction in central growth forecast (from 2.8% to 2.0%) translates into cuts in housing need of much less than half that once all relevant economic factors are computed.
- Indeed, this reduction ratio could be as low as 5% once the region’s particular non-economic drivers are considered.

Over a twenty year horizon, the scope for error is raised if analysis extrapolates on the basis of recent experience alone. Unless you build in a sequence of negative shocks that continually depress growth below productivity and employment potential, you have to accept the likelihood of higher growth again at some point as economic rebalancing, innovation and change feed through, particularly as this is coalition government policy.

Furthermore, predictive planning should be based on a range of scenarios, including one that envisages a return to high growth, precisely because:

- Single point estimates will be wrong
- National and local economic policy wants and expects higher future growth
- It is easier to adjust plans lower in the event of a relatively subdued growth outcome than to correct the errors of under-planning retrospectively.

It would be a major constraint and distortion on future local SW economic development if at the outset, low growth rates are assumed for the analysis of planning.

Nigel F Jump, January 2011



## Appendix: Performance Framework

A key aspect of both economics and planning is how to assess absolute and relative performance objectively against a moving background of policy change, structural adjustment and cyclical uncertainty.

- In theory, it is easy to identify the factors that need to be assessed. Many of those factors have been explored repeatedly over the years: those related to growth and productivity and, thereby, employment and incomes, and how these interface with demographic, social and technological change.
- In practice, for any spatial definition or time frame, it is not easy to isolate cause and effect and some informed assumptions need to be made about baseline, analytical process and aspiration before aspiration is factored in.

Considering recent trends in economic performance for SW England compared with other English regions outside London (see table), we find, for 1998-2008:

- growth averaged 2.5% (compound in real terms i.e. factoring for inflation) broadly in line with peers elsewhere, leaving our relative position unchanged;
- productivity grew by nearly 2% per annum in real terms with the region's ranking in terms of GVA per hour rising from seventh to third over the period;
- employment grew at almost 1% compound per annum, reflecting both total hours growth and fewer hours worked per person. (Note that this region has a comparatively high part-time workforce and the total number of people employed in the region is closer to 2.5 million, which again shows that simplistic notions of the growth-employment-housing relationship are a source of error);

### Measures of SW Economic Performance 1998 - 2008

Variable	Definition	Level (£ or no)		Real rate (av ch) CAGR
		1998	2008	
Real GVA	2006 prices (£bn)	71.2	91.3	2.5%
Real GVA per head	2006 prices (£'000)	14.7	17.5	1.8%
Real GVA per hour	2006 prices (£)	18.3	22.2	1.9%
FTEs#	Number (mn)	1.95	2.13	0.9%

# total regional hours divided by national average actual hours worked in each year. CAGR = compound average growth rate.

Source: SW RDA based on ONS and proprietary data

## Growth Scenarios

Fundamental to thinking about future growth potential and planning need are three main areas of analysis:

- the current capacity of an economy to develop and grow
- historical performance and projection of that performance forward
- forecast deviations from history and projection on the basis of foreseeable change, investment and coherent aspiration

### Economic Capacity

Since indigenous demographic change is usually more certain and less volatile than economic change, forecasters tend to start with what is known about population trends and social change for the future. This is usually derived from official (ONS or other) sources amended, when objective evidence exists, for any detailed local knowledge.

Next, an iterative use of feedback loops from economics to demography is required to consider how changes in economic variables interact with factors such as migration, working and commuting patterns, and social household structures (e.g. the way economic downturns, divorce rates and house formation patterns can interact).

Economic capacity can be assessed by reference to the growth process and the relationship of inputs and outputs; productivity and its drivers. This is considered in respect of concepts of productive capacity and the current state of the output gap and “hysteresis” (the process by which unutilised resources lose productive potential). The question is how quickly the gap will close, bringing forward demand for new capacity, once recovery becomes sustained.

During the long expansion up to mid-2008, many commentators estimated that the UK underlying trend rate of real growth – the rate at which the UK economy could grow year-on-year without causing capacity and inflationary issues – had risen from a post-war “norm” of about 2.0-2.5% to a new range of 2.5-3.0%. Within those bands, there was considerable discussion of what point estimate should be assumed for policy and other analysis. Moderate changes in the underlying trend real rate of growth can have a noticeable effect on long term employment and income prospects, and other planning and development initiatives in the long term.

Recently, the UK Treasury and other bodies have revised down their views about the UK’s underlying trend rate of growth. The new Office of Budget Responsibility believes a rate of about 2.35% is appropriate right now but suggests that the ageing population may cut this to 2.1% after 2014. This is in marked contrast to the 2.75% being used in the latter stages of the last decade by the previous administration.

Reality may well prove to be somewhere between these extremes once the UK economy regains sustainable momentum. As the table above showed, the SW real growth rate for the 1998-2008 period was 2.5% per annum compound. This compares slightly better than the UK average of 2.4%. Without a permanent, negative, step-change in the economy’s development process, which implies an unprecedented loss of inventive and entrepreneurial spirit in the SW region, it is difficult to argue that growth rates in this sort of area (around 2.5% per annum) will

not recur going forward. Indeed, there is a non-trivial probability that rates of growth return to the 2.8%-3.2% range that existed before the current malaise once economic rebalancing is achieved.

At this point, it is sensible to assume for projection purposes that the historical pattern of the interregional relationships remain broadly intact.

### Performance & Projections

Projections should be based on as reliable and long a history as possible. For example, a simple projection from early 2009, in the depths of recession, will not be of use as a benchmark for the next ten or twenty years because it will under-estimate capacity for growth over one or more economic cycles. Similarly, a projection based on data going back fifty years, is also prone to error because it will incorporate major structural or policy changes that created discontinuities in the economy.

It is partly a matter of informed judgement as to what the appropriate historical time scale is for a specific economic projection. For regional, and especially local, economics, however, the choice is limited in practice by a lack of consistent statistics through time. Indeed, the limited historical record means great care is needed in projecting and interpreting any point results for more than a few years. It is always advisable to consider ranges of probability.

From our recent projections<sup>2</sup>, the first table below summarises some of the main growth figures for the region, showing the adjustment downwards from pre-downturn history. The second table shows productivity projections for some key SW sub-regions.

This benchmark evidence shows the scale of the task, (as we first need to offset the productivity destroying effects of the recession), in rebalancing the SW economy to achieve reasonable job and income prospects for most SW citizens over the next twenty years.

### SW growth projections end 2010

Average % change	2010-2015	2015-2030	1995-2005
GVA	+2.5	+2.4	+3.2
GVA per head	+1.6	+1.5	+2.6
Employment (FTEs)	+1.5	+1.1	+1.8
Productivity	+1.0	+1.3	+1.4

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<sup>2</sup> See SW Economic Projections: Autumn 2010

### SW sub-regions: productivity projections

Average % change	2010-2015	2015-2030	1995-2005
Bath & North East Somerset	0.4	1.1	1.2
Bournemouth	1.2	2.7	0.7
Bristol	-0.3	0.1	1.9
Cornwall	1.9	1.4	0.5
1Devon	1.1	1.1	0.4
Dorset	0.8	1.6	0.6
Gloucestershire	1.1	1.6	2.4
North Somerset	2.2	2.0	3.8
Plymouth	-1.1	-0.4	-0.2
Poole	1.0	2.2	1.8
South Gloucestershire	3.1	2.3	1.6
Somerset	1.4	1.6	1.6
Swindon	0.9	0.7	3.2
Torbay	-0.8	-0.8	-0.2
Wiltshire	0.7	1.5	1.8

Source: Experian for SW RDA

Next, we need to consider the difference between projections and forecasts and the effects of policy intervention and aspiration.

### Investment & Aspiration

Economic projections are extrapolations of the past. Whether they are based on simple linear models or some more complicated geometric or other mathematical relationships, they are founded on the view that the best predictor of the future is revealed by the trend of the recent past. For many economic variables, this assumption is robust. The issue is what happens when you know about or plan for some policy or other “shock”.

Forecasts, on the other hand, are based on some insight or assessment of how much the future will be different from or the same as the past. History is an important guide but economic theory, policy analysis and other factors may need to be used to produce a forecast that is tenable technically and acceptable publically.

A forecast may also incorporate aspiration – which is more objective than wishful thinking. It needs to be a reflection of a desired but realistic strategic or policy outcome based on planned interventions that are designed to change the projected trajectory. There is a danger that inconsistency of aspiration within an area can lead to odd expectations and distorted outcomes. For example, we note that the West of England Local Enterprise Partnership currently being created aspires to 3.5% real growth rates for the area, yet recent housing number reductions from Bath and NE Somerset (part of West of England) base those cuts on average growth of 2% per annum (the Oxford central forecast).

The question is what are the realistic boundaries of future growth on the basis of the factors that will drive that growth? These variables are chiefly labour supply components, productivity changes and resource use issues.

This form of analysis leads to a stylised framework, which sets out the likely boundaries for SW growth in the period ahead.

- “Recovery with loss”. SW real growth recovers to a long term sustainable rate of about +2.25-2.5% per annum (in line with the analysis at the end of the previous section). It does not make up all the potential for activity lost in the current downturn. Labour input grows at a slower pace than it did pre-recession and productivity recovers more modestly.
- “Full recovery”. SW growth recovers to the pre-recession rate of about 3% per annum and does make up the potential activity lost in recession. The drivers increase at faster rates than in the previous view with a rough balance between productivity and labour use.
- “Restricted potential”. The SW economy suffers a permanent loss to both the level of activity and to its underlying growth potential, which falls below 2% per annum (say to around 1.5% per annum). Productivity growth is constrained and employment growth is much more subdued than before.

The Chart below shows the real SW GVA forecasts that emerge from this type of analysis. For this briefing, there is no attempt to fashion year-by-year cyclical volatility into the estimates but, as the history shows, these are not large in annual terms except at times of significant disruption (i.e. the two recessions).

It is vital to stress that the rates shown are not targets or aspirations. The region's businesses and authorities may aspire to a different growth trajectory than those shown via higher labour productivity and investment.

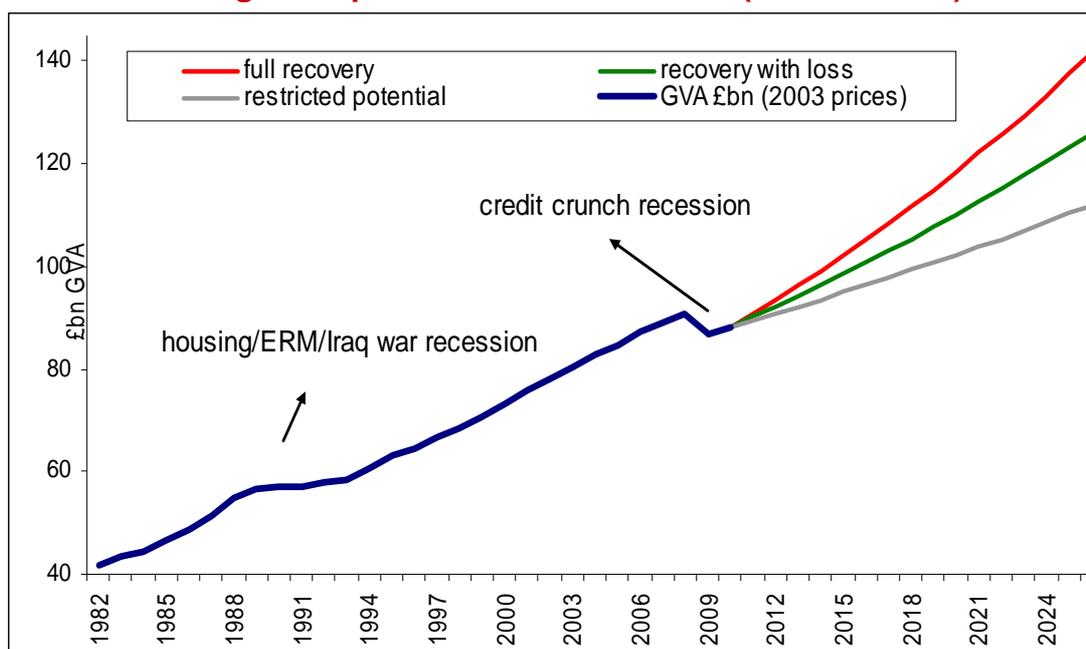
The problem is that the number of potential scenarios based on alternative aspirations is very large. For current purposes, therefore, no probabilities are ascribed to the alternative scenarios. From theory and experience, however, it would be a surprise if an outcome within the red-green range depicted in the chart were not more likely than most. Planning needs to be prepared for these realistic outcomes over the long run.

Indeed, let us consider these three lines in relation to predictive planning.

- Ex post, reality will be different from the lines shown but it is likely that most eventualities will be encompassed within the range identified.
- Political and other views will influence the kind of future to be planned for but there should still be an objective consensus behind whatever view is promulgated (including between central and local government).
- Adoption of the grey line for planning purposes implies some rather unpalatable outcomes in terms of sustained high unemployment, eroding competitiveness and housing provision that may result in local socio-economic tensions and well-being losses.
- The green line implies a less buoyant economy than we had pre-recession but, given demographic trends and the historical backlog of less than optimal employment land and

- The red line implies a “high tide” of economic development that has occurred historically. The risk is that, if it is not adequately considered by the planning process, outcomes in this area will lead to economic/market mismatches that distort prices and decisions.

### Alternative SW growth paths after the recession (real GVA £bn)



Source: South West of England RDA

The use of alternative scenarios for development, similar to those shown, is ideally a key component of planning strategy and policy. Adopting one particular view of the future may generate pressures with marked unforeseen negative consequences.

Moreover, within the reasonable bounds highlighted here, it is advisable to plan for stronger growth, more employment, higher migration and greater housing need rather than less. It is easier to scale down activity if the revealed outcome is lower than the “high tide” than it is to address the consequences of “under-planning” once damaging pressures are created. Again, high carbon solutions are an example, such as the subsuming of the Weston travel-to-work area within the Bristol one.

### Influencing Economic Trends

Finally, it must be recognised that the accuracy of historical understanding, projections and forecasts in postulating outcomes will be affected by the broader economic and non-economic

factors at work in the world. Here, without detailed development, four such trends can be identified: demography, environment, technological change and structural rebalancing

## Conclusions

Conducting long-term forward analysis for economic development and planning is a complex process based on the understanding of trends and structures, policy initiatives and strategy, as well as assumptions about global economic and socio-environmental factors. It needs to consider historical performance, known capacity changes, investment plans and aspiration, and other quasi-economic trends. There are no right answers but there may be wrong ones, such as the engendering of negative externalities implicit in “a race to the bottom”.

There is a need to distinguish between projections and forecasts and to identify realistic assumptions. It is important to recognise the limitations of any forward analysis but also to appreciate the value of achieving an accepted, ex ante, benchmark against which to measure, ex post, outcomes.

Predictive planning is about identifying a range of potential outcomes and analysing the consequences of those for local development. It is not be about setting simple numbers for growth, employment and housing but about recognising alternative futures and being prepared for those in a way that maximises favourable outcomes and prevents costly, unintended consequences.



The Economy Module of the South West Observatory provides a dynamic source of economic and business research and intelligence, with comprehensive data and analysis to support regional development and evidence based decision making. To improve the availability of regional data the Economy Module has developed a set of Regional Accounts which are freely available to all. For further information please visit the Economy Module website ([www.swo.org.uk/economy](http://www.swo.org.uk/economy)).

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