States of Jersey
States Assembly

États de Jersey
Assemblée des États

Corporate Services Scrutiny Panel

Review of States of Jersey Financial Forecasting

Presented to the States on 2nd December 2008

S.R. 13/2008

Contents

Panel membership

The Corporate Services Panel is constituted as follows

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Connétable D.J. Murphy

Deputy C. Egré

Deputy R.G. Le Hérissier

The Corporate Services Finance Sub Panel is constituted as follows

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Introduction

At its meeting on 19th June 2008, the Corporate Services Panel agreed to the appointment of Professor Michael Oliver as its adviser to investigate on its behalf the financial forecasting processes in the States of Jersey. The reasons for the review were as follows:

- The Panel considered that it was important to examine rigorously the assumptions made by the forecasting group and to question the current presentation of economic information.
- There needed to be some clarity on how to measure the success or failure of forecasts.
- The Panel believed that the current forecasts did not demonstrate an adequate level of risk analysis and that the public expected a more sophisticated debate on economic prospects[1].

Terms of reference

The Corporate Services Panel approved the following terms of reference for its review of financial forecasting in the States of Jersey:

1. To conduct a review of the current financial forecasting process and outcomes
2. To identify potential improvements in the presentation of economic data
3. To submit a report to the States with a commentary on the forecasts provided in the States Business plan and Budget

[1] Minutes of Corporate Services Panel dated 19th June 2008

Recommendations

1. The Treasury should consider how they can make States Members more aware of what financial forecasts are, what they are designed to do and their limitations. In turn, States Members need to communicate this more effectively to the general public.

2. The presentation of data in the Budget and the Business Plan could be improved. One obvious improvement would be charting different rates of inflation in a density (fan) chart. Another suggestion would be to consider the effects of a range of economic growth forecasts on employment and population growth. There could also be a range of income forecasts produced within a probability band.

3. There needs to be a greater discussion of the assumptions underlying the forecasting figures in the Budget. Some of this could be incorporated into the Budget to introduce greater transparency into the forecasting process. The Treasury should also indicate where its forecasts differ from the Fiscal Policy Panel

4. The Treasury should introduce target zones for forecasting. This would allow them to measure how well they did against the target and to try and improve upon it.

5. The Panel welcomes the Treasury initiative to address the significant variation between estimates of profits in the finance sector and the actual outturn.

6. The Panel welcomes the introduction of an Annual Business Inquiry to complement the existing approach for determining GNI.

7. Work should be undertaken on the feasibility of Jersey adopting a Statistics of Trade Act (as in the United Kingdom). This law should have the power to call for information unless there was sufficient information forthcoming on a voluntary basis.

8. The Panel appreciates that the role of the FPP is to advise the Treasury Minister on economic trends; however, it is important that the independence of the FPP remains undiminished and the Panel has reservations about whether by accident or design, the FPP could supplant the work of Treasury officials. The Treasury should

continue to strengthen their forecasting processes (income and economic) and not sub-contact this responsibility to the FPP.

9. The FPP should be subject to independent scrutiny. The present Corporate Services Panel believes that it has an important role to play in providing a forum for this and recommends that the next Corporate Services Panel gives this high priority in its work programme.

10. In the UK, the Comptroller and Auditor General reviews budget assumptions on a three-year rolling basis. Such a process should be introduced into Jersey. This would provide a check both that the audited assumptions remain reasonable and cautious, and to see whether they were reasonable and cautious projections in the period since they were last audited.

11. The Panel recognises that the forecasting processes have been strengthened in recent years, but also notes the importance of informal processes of gathering data for the forecasting process. This relies on the experience of individuals who have had many years examining how economic issues have affected the business community. With the retirement of certain individuals, a good deal of understanding and personal links will be lost. The Forecasting Group needs to consider how it will maintain these informal links, especially with the finance sector.

12. There should be a single annual forecast which would be updated on a regular basis internally and made available to the FPP. The various financial surveys should be timed to feed into this single forecast.

Background

1. Prior to the appointment of Professor Oliver the Panel had been conducting its own review of the forecasting of States revenues. Its interest in the matter had arisen in the course of briefings received in the early spring of 2007 on the draft States Annual Business Plan 2008. It was clear from these briefings that the Council of Ministers was facing some difficult decisions in terms of addressing funding pressures[2] while maintaining its overriding principle of ensuring that there would be no structural deficit over the five year period of the States Strategic Plan[3]. Various scenarios presented to the Panel in the early part of the year indicated the possibility of a significant deficit in 2011 between £23m and as much as £58m (if inflation was worse than expected).

2. In March 2007 however the Chief Minister was able to announce optimistically in an update on the States financial position that the States was ôliving within its means[4]ö Instead of a forecast deficit of £8m in 2006[5] the provisional outturn for the year was a surplus of £22m - a variance of £30m. The forecast for 2007 was also greatly improved. Whereas the forecast for the Budget in October 2006[6] had indicated a **deficit of £3m** for 2007 the revised forecast now showed a **surplus of £21m**. There was now a forecast net surplus for the period 2006 to 2011 of £30m. As a result the expenditure plans in the 2008 Business Plan were considered to be affordable and sustainable. There was much less pressure on the Council of Ministers to constrain its projected spending plans.

3. This was good news for the Statesô finances but posed questions for the Panel about the timing of this announcement and potential impact of the financial forecasts on the financial planning process. The Panel was concerned at the perception that short term optimistic fluctuations in forecasts were being used to justify a relative relaxation in the Councilôs spending policies.

4. The Panel decided, therefore, to undertake a review which would examine the processes used in financial forecasting, particularly in the long term, and the impact these forecasts had had over the last few years on States decision-making. The objectives of this review were

    (a) to understand better the function of forecasts in the financial planning cycle

    (b) to consider whether the procedures for producing the revenue forecasts were as robust and objective as possible.

    (c) to assure themselves that the forecasting process was not susceptible to any short term political agendas.

5. The Panel acknowledged that simply criticising the accuracy of financial forecasts would be to state the obvious. It was appreciated that it was extremely difficult to predict tax income in Jersey. Forecasts were subject to complex factors including the

[2] The key identified pressures at this time were prison improvements, Higher Education, Third Party Planning Appeals, Supplementation and the creation of a fifth Scrutiny Panel
[3] Strategic Plan commitment 1.3.1
[4] Communications Unit Press release dated 27th March 2007
[5] Forecast for States Budget 2006
[6] Forecast for States Budget 2007

Island's high dependence on the volatile profitability of the finance industry, fluctuating interest rates, the growth in the world economy, and the rise and fall of stock market indices. A margin of variance in the forecasts was therefore to be expected.

Initial Review: Findings

6. The first step taken by the Panel in mid 2007 was to assess the movement in long term financial forecasting over the previous five years. The Panel studied the financial forecasts for the period 2002 - 2007 which were published twice a year in the States Annual Business Plan and the Budget Statements and compared them with the actual outturn.

7. Having looked at the trends in forecasts over a six year period (2002 - 2007) the Panel found that:

   - At the start of the period (2002) long term forecasts were indicating substantial deficits. The States accordingly had taken decisions in order to mitigate these deficits through constraining spending on capital projects and raising additional revenues through increases in Impôts and Stamp Duty as well as initiatives such as ITIS and 20 means 20. As a result of these decisions the deficits were reduced and the outturn for all years show an actual improvement on the initial long term forecasts.

   - Variations between forecasts and the actual outturn were relatively small for the years 2002 - 2005. 2006 and 2007 showed a greater level of variation from the estimates.

   - In one year (2004) the outturn worsened in comparison with the forecast in the previous Budget document

   - Despite the initial forecasts of deficits the final three years of the period studied (2005 - 2007) resulted in surpluses

8. The Panel's initial conclusion was that it might be appropriate for the work of the forecasting group to be open to independent expert scrutiny and it agreed to discuss this proposition with the Treasury and Resources Minister.

9. In the first part of 2008, the Corporate Services Finance Sub Panel met the Minister on two occasions to discuss the forecasting process[7]. The Sub Panel sought answers to four basic questions:

   - Are the current forecasting processes fit for purpose?

   - Could the accuracy of the forecasts be improved?

   - Should forecasts be more frequent?

   - Should there be an independent monitoring process?

[7] 7th March 2008 and 2nd May 2008 - see notes of these meetings provided on the Scrutiny website

10. The Minister's reaction to the Panel's suggestion for some form of external validation of the forecast was cautious. The Minister said that, in his view, this would not reduce the range of uncertainty in the forecasts. Nor would it be helpful for an external body to 'second guess' the outcomes from the forecasting group. He suggested that too much reliance was placed on the spot forecasts which were published three times a year. There was a tendency for the States to base decision making on these forecasts rather than on an understanding of what might constitute a sustainable level of public spending[8].

11. There was a discussion too on the timing problem inherent in the States Business Planning cycle: a forecast was produced for the Annual Business plan which was lodged in July; however, analysis of the most important information for the forecast, namely income tax assessments, was not available until the end of August. This meant that the best estimates for the forecast were not available until the revised forecast was published with the Budget in November. Furthermore the third published forecast in February, based on provisional outturn information, generally resulted in only minor adjustments. There was an argument, it was suggested, for reducing the number of forecasts from three a year to a single annual event in November. This would clearly indicate that the other forecasts were in fact adjustments rather than new forecasts[9].

12. The Panel and the Minister discussed what would be an appropriate role for the Finance Sub Panel in monitoring the process. It was suggested that the Panel could:

    (a) receive further detailed base information relevant to forecasts and seek to engage external advice to validate the process;

    (b) play a role in promoting a better public understanding of the limits and ramifications of the forecasting process and their role in managing public spending;

    (c) provide a public forum for discussion of the factors and difficulties involved in forecasting and the way forecasts could be used to guide long term a spending strategy rather than short term decisions[10].

13. Following these discussions the Sub Panel agreed that it required a more detailed critical study of the exact nature of the forecasting processes. It was at this point that Professor Michael Oliver was commissioned to undertake an investigation into current procedures.

[8] Notes of meeting dated 7th March 2008
[9] Notes of meeting dated 2nd March 2008
[10] Notes of meeting dated 2nd March 2008

Adviser's Review: Findings and Recommendations

14. Professor Oliver conducted his review through a series of interviews with civil servants and experts[11]. His report was considered by the Corporate Services Panel and then discussed with the Treasury and Resources Ministers and officers at a public hearing on 14th November 2008 (transcript available on the Scrutiny website at www.scrutiny.gov.je.) Following this hearing the Panel agreed the recommendations set out in the following section.

Purpose of financial forecasts

15. The Treasury and Resources Minister told the Panel that the perceived problems with the present forecasting arrangements were due to a misunderstanding about what financial forecasts were designed to do and what their limitations were. He said:

> *'To me financial forecasts are there to help guide us to set financial and fiscal policy ... perhaps one of the failings in the past has been to suggest that they are totally accurate or a single figure which could not be capable of variation. … Forecasts are susceptible to change, they are based on the best information we can have and best analysis of that information, … but it is the fact that there is inevitably a range of uncertainty and how that is communicated which may be the source of whatever problem or perceived problem we seem to have with existing arrangements*.ô

16. The forecasts, he suggested, allowed States members to have a clear picture of the financial framework within which their decisions on spending plans were taken:

> ô*What we ought to be looking for is a trend maybe rather than absolute numbers, but on the other hand I think members have to be aware of what the impact of potential amendments to a budget would be and if you are going to do that you have to have some yardstick against which to measure*.ô

17. The Treasurer of the States warned that there was a tendency for the States to react to short term movements in the economy and to base decision making on spending too closely on spot forecast estimates of revenue income. Thus, for example, whenever the forecast revealed a potential surplus in the accounts there were calls to spend the additional money. Similarly recent improvements in States incomes due to high rates of growth in 2006-2007 led to questions being raised about the need for the Goods and Services Tax. He pointed out, however, that forecasts were cyclical and would fluctuate up and down. Recent growth rates were unusually high and were not sustainable in the long run. Therefore long term spending commitments should not be based on short term surpluses. He urged politicians to take a more strategic view:

> *Is that why you want forecasts - so that when you can predict a cyclical increase in your income, you can go and spend? Or is it actually we should try and somehow break the link a bit between forecasting our income and decisions on our spending?*

[11] See Appendix Two for full list of interviewees

18. The Panel Chairman turned this point round and raised a key concern about the possiblity of forecasts being manipulated to achieve a political end, such as discouraging spending:

> *'That leads to the converse question which I think is in our minds and that is something that we need to defuse, it is the worry that some of the forecasting is bent in a particular way for political reasons. In other words, do we underestimate income in a growth situation, in order to try and keep a cap on spending, and conversely the other way round?'*

19. The Treasurer of the States assured the Panel that research on past performance regarding forecasts had revealed that this perception was not the case:

> *'I think one of the reasons you started on this is there was a belief building that the Treasury has been consistently underestimating income. I have heard it personally from so many different sources and so many politicians. If this report does one thing, it is to demonstrate that is not true. The figures in the report show that we have overestimated 13 times and underestimated 12 times, so if anything it is slightly in reverse of what people have said. It is just not the case that we have been consistently underestimating income and are being overcautious.'*[12]

20. Recommendation:

The Treasury should consider how they can make States Members more aware of what financial forecasts are, what they are designed to do and their limitations. In turn, States Members need to communicate this more effectively to the general public.

Concerns about accuracy of forecasts

21. The Panel has acknowledged the difficulties in forecasting tax revenues in Jersey due to the high dependence on corporate profits[13]. In a small volatile economy such as Jersey's there can be significant changes affecting the outcome. It was clear from the papers made available to the Corporate Services Panel that there had been much effort invested by the forecasting group aimed at improving both the macroeconomic data and the income and expenditure side of economic forecasts over the last few years. However, recent fluctuations in the forecasts and outcomes were undermining confidence in the forecasting process.

22. The Panel noted from the adviser's report there have been big underestimations of income in recent years when economic growth has been buoyant[14]. The problem here related to long term forecasts (contained in the original budget forecast fifteen months before the end of year actual outturn). In terms of the forecast provided just three months prior to the actual outturn the variance was much less and the performance of the forecast improved.

[12] See evidence presented in section 4.9 in the Panel's adviser's report
[13] See paragraph 5 of this report
[14] Section 4.10

23. The Treasurer of the States suggested that the reason for the recent underestimation of income was linked to the very high levels of economic growth in recent times which nobody here or elsewhere had predicted accurately. He warned:

> *'Conversely, if we now move into a period of much lower rates of growth that no one anticipated, it could be that our forecasts are equally out the other way. So it is not that our forecasts have got less accurate in recent times, it is that we have had very high levels of economic growth in recent times.'*

24. The Minister pointed out the forecasts change as new information becomes available to influence the analysis. The fact that forecasts were subject to adjustment over time did not mean that they were necessarily wrong in the first place:

> *'Up-to-date forecasts have to reflect the best information you have at hand, but if that information suggested that your previous assumptions, we will say, of economic growth were wrong, that does not necessarily mean you were wrong to set that figure or even set a range*.ô

25. Recommendation:

The Treasury should introduce target zones for forecasting. This would allow them to measure how well they did against the target and to try and improve upon it.

Presentation of data

26. The Panel discussed with the Minister how the presentation of forecast data in the Business plan and Budget could be improved. One suggestion, in terms of avoiding hostages to fortune, was to chart different rates of inflation in a density (fan) chart as the bank of England tries to do in its *Inflation Report*, or presenting a range of income forecasts within a probability band.

27. The Minister accepted this suggestion ó*as long as we can have some evidence for justifying how widespread those bands are and trying to put a percentage on the likelihood of any or other of those situations occurring'*.

28. Recommendation:

The presentation of data in the Budget and the Business Plan could be improved. One obvious improvement would be charting different rates of inflation in a density (fan) chart. Another suggestion would be to consider the effects of a range of economic growth forecasts on employment and population growth. There could also be a range of income forecasts produced within a probability band.

Collection of data

29. The Panel recognised that there was good data supplied to the forecasting group from the finance sector. However the Panel asked the Minister whether enough was being done to collect data from other sectors of the economy such as retail and construction. The States Economic Adviser informed the Panel that his department was working with the States Statistics Unit on two new forms of enquiry: a quarterly retail sales inquiry and an annual business inquiry. The Panel welcomed these two initiatives but noted that these enquiries would be voluntary, unlike the position in the United Kingdom where the Annual Business Inquiry is supported by the Statistics of Trade Act 1947. The Minister felt that this form of legislation might inhibit business activity or dissuade businesses from setting up or maintaining business in Jersey.

30. The Panel welcomes the introduction of an Annual Business Inquiry to complement the existing approach for determining GNI.

31. Recommendation:

Work should be undertaken on the feasibility of Jersey adopting a Statistics of Trade Act. This law should have the power to call for information unless there was sufficient information forthcoming on a voluntary basis.

32. In order to address the variation between the estimates of profits in the finance sector and the actual outturn, the Panel asked the Minister whether it would be worth investing more resources to enable Income Tax to meet with individual companies to discuss their income position and forecasts. The Minister did not think that this suggestion would be particularly productive. The Treasurer of the States informed the Panel that his department was employing an economist on secondment from the Bank of England to investigate the links between profitability and how that converted into tax revenue. He said that a better understanding of this link would improve forecasting.

33. The Panel welcomes the Treasury initiative to address the significant variation between estimates of profits in the finance sector and the actual outturn.

Further discussion of underlying assumptions and economic forecasts

34. The Panel suggested to the Minister that there should be more discussion in the Budget about the assumptions underlying the forecast figures. The annual Budget does not contain an accurate breakdown of economic forecasts and there is little published material available for outside experts to measure the implications and unpublished assumptions behind the statesô forecasts and policy measures (and thereby test which claims are consistent and which forecasts are credible and which are not). A formal discussion of data provided in the Jersey Economic Digest might be appropriate.

35. The Minister replied that he was not sure whether inclusion of such a discussion in the Budget of a technical and complicated nature would help the decision-making process itself. However, this might be better done around the table with a Scrutiny Panel.

36. The Panel noted that the Fiscal Policy Panel (FPP) is providing an analysis of economic trends and assumptions. The Treasurer of the States told the Panel:

> *'In terms of what we can do to improve the forecasts, I think it is probably the biggest single thing is that we can now use information produced by them as a basis for us.'*

37. The Panel however was concerned that there might be a risk of diminishing the independence of the FPP if it was perceived as substituting for a function which the Treasury itself should be providing. The Panel felt that it was important that advice received from the FPP should not be accepted without question. The Minister said that he was confident that the FPP would maintain its objective and independent viewpoint while the Economic Adviser could, if appropriate, challenge their conclusions.

> *'If there were a variation [from the FPP], then one would publish them in the Budget], but first of all you would explore why there is this variation when the information is common to both groups.'*

38. Recommendations:

There needs to be a greater discussion of the assumptions underlying the forecasting figures in the Budget. Some of this could be incorporated into the Budget to introduce greater transparency into the forecasting process. The Treasury should also indicate where its forecasts differ from the FPP.

The Panel appreciates that the role of the FPP is to advise the Treasury Minister on economic trends; however, it is important that the independence of the FPP remains undiminished and the Panel has reservations about whether by accident or design, the FPP could supplant the work of Treasury officials. The Treasury should continue to strengthen their forecasting processes (income and economic) and not sub-contact this responsibility to the FPP.

The FPP should be subject to independent scrutiny. The present Corporate Services Panel believes that it has an important role to play in providing a forum for this and recommends that the next Corporate Services Panel gives this high priority in its work programme.

In the UK, the Comptroller and Auditor General reviews budget assumptions on a three-year rolling basis. Such a process should be introduced into Jersey. This would provide a check both that the audited assumptions remain reasonable and cautious, and to see whether they were reasonable and cautious projections in the period since they were last audited.

Strengthening the Forecasting Group

39. The Panel recognises that the forecasting processes have been strengthened in recent years, but also notes the importance of informal processes of gathering data for the forecasting process. This relies on the experience of individuals who have had many years examining how economic issues have affected the business community. With the retirement of certain individuals, a good deal of understanding and personal links will be lost.

40. **Recommendation**:

The Forecasting Group needs to consider how it will maintain these informal links, especially with the finance sector.

Frequency of forecasting

41. Currently financial forecasts are prepared three times a year as standard in support of the annual financial planning cycle[15]. Previous discussions with the Minister and the adviser's report had highlighted difficulties related to the timing of these forecasts[16]. The Panel therefore suggests that an annual presentation with adjustments at appropriate points in the year to take account of new relevant information, such financial surveys, economic trends, employment, might be better understood. In this way, the financial forecast could be seen as independent of major political events such as the debate on the Annual Business Plan and Budget, though of course it would still be used to inform the decisions taken by States members.

42. Recommendation:

There should be a single annual forecast which would be updated on a regular basis internally and made available to the FPP. The various financial surveys should be timed to feed into this single forecast.

[15] See Appendix Three
[16] See paragraph 11 of this report and section 4.3 of the adviser's report

Appendix One: Adviser's Report to the Corporate Services Panel

Financial Forecasting

Professor Michael Oliver, BA, PhD,

Contents

1. Rationale for the Report

In June 2008, I was asked to examine the financial forecasting process of the States of Jersey by the Corporate Services Finance Sub Panel (‘the Panel’). The rationale behind this request stemmed from a concern that recent fluctuations in the forecasts and outcomes of States finances were undermining the confidence in the forecasting process. During the earlier part of the year, the Panel had conducted its own review and had discussions with the Minister and Treasury officials on the accuracy, role and timing of the forecasting process. However, the Panel believed that it was appropriate to appoint an independent adviser to assist in examining the forecasting process. My terms of reference were to conduct a review of the current financial forecasting process and outcomes and to identify potential improvements in the presentation of economic data.

2. Background to the Report

Since 2004, much effort has been invested by various civil servants in the Treasury both to improve the collection of economic data which feeds into the forecast and to formulise the process of forecasting. Ironically, however, over this time the level of confidence in the forecasts of income has worsened and there has been a growing disconnect between the civil servants, the politicians and the general public on the entire question of income and expenditure in Jersey.

This past year has witnessed an escalation of the tension between each of the stakeholders and can be characterised as follows. The Treasury will announce that there is an improved outturn to a forecast, as income receipts are higher than the initial forecast. The politicians will respond to this news by blaming civil servants for not being accurate enough in their initial forecasts and accuse the Treasury of under forecasting income to constrain States expenditure. The politicians will then spend some, if not all, of the extra income. Finally, the general public’s reaction to all of this, after reading in the *Jersey Evening Post* that ‘extra money’ has been found, is a mixture of bemusement and anger. Some will question why new taxes have been introduced in the first place (e.g. GST); others will get angry as the States approve additional expenditure and yet others will lobby politicians to spend the extra income. Invariably public expenditure continues to rise, and in recent times, ‘extra money’ appears like Manna from heaven as Jersey’s economy continues to grow at rates faster than that predicted by official forecasts.

For all stakeholders, this is an unacceptable situation and should not be allowed to continue. Although the above characterisation is roughly drawn, the problems that arise from this description are real enough. Attempting to produce more accurate forecasts and improve the presentation of economic data is only part of the solution, however. There are wider sociological and political economy questions which arise in relation to income and expenditure which clearly go beyond the remit of this investigation; and a separate investigation into expenditure would be the ideal companion piece to this report.

3. Initial Investigations

In their initial investigation earlier this year, the Panel had sought answers to four questions:

- Are the current forecasting processes fit for purpose?
- Could the accuracy of the forecasts be improved?
- Should forecasts be more frequent?
- Should there be an independent monitoring process?

Although the Panel was given information on the process of putting together an income and expenditure forecast by officials, reviewing the evidence I was unclear about the extent of the relationship between forecasting receipts and outlays and how this tied in with the Treasury’s economic forecasts. Further, although macroeconomic aggregates were discussed *ex-post* by the Statistical Office (most notably in *Jersey in Figures*), there seems to be little discussion of *ex ante* economic forecasting in any of the documents which were released to the public. Taking on board the Panel’s initial questions, four broad areas initially formed my thinking into the forecasting process.

First, what model was the Treasury using to make its forecast? It was acknowledged that in the past it had relied on knowledge and experience but that it had adopted more formal processes for forecasting over the last few years. What was the exact nature of the process? Is forecasting conducted by guessing, “rules of thumb”, “informal models”, expert judgment, extrapolation, leading indicators, surveys, time-series models or econometric systems?

Second, is economic forecasting sufficiently calibrated to take into account economic developments, particularly externalities? To be sure, changes in legislation, sudden switches in economic policy or political turmoil are unanticipated but how, for example, was the credit crunch being considered by the Forecasting Group?

Third, how does the Treasury measure the success or failure of forecasts? One of the duties of the Fiscal Policy Panel (FPP) is to provide comments on the appropriateness of the States financial position and forecasts. Does this exculpate the Treasury from criticism if the forecast eventually turns out to be wrong? One way of establishing success or otherwise in larger economies is to encourage rival forecasts to allow comparisons of one against the other, *ex post*. A natural focus of attention is then whether a combination of one or more forecasts is better than any one forecast alone, or whether one forecast contains all the useful information in another (so that it encompasses that forecast). Is this feasible in a small economy such as Jersey?

Fourth, and linked to the above point, it is it not possible to have more information and more sophisticated presentations of measurable uncertainty including density forecasts; namely, estimates of the probability distribution of the possible future outcomes? For example, the Bank of England tries to present its *Inflation Report* forecasts in form of ‘fan chart’ where uncertainty fans out into the future in ever-wider bands of lighter colour.

4. Findings of the investigation

During the investigation a number of civil servants and experts were consulted and provided valuable information for this report. Section 4 largely draws on this information.

4.1 The Forecasting Group

There is not a formal economic model for Jersey's economy. Although there is a degree of quantitative work undertaken, the forecasting process is conducted predominately by using qualitative methods which rely heavily on the experience of several individuals who have had many years observing how economic issues have affected the island. Such an approach involves 'gauging the temperature' on what is going on in industry by meeting with people from different sectors on a regular basis (e.g. banks, Chamber of Commerce, tourism and agriculture). This approach eschews econometric modelling and it does not rely on full-blown measures of national accounting which are more appropriate for larger economies (see Section 4.2).

Each of the economic advisers (past and present) gives the Treasury assumptions about key indices and in turn, these are passed onto the Forecasting Group (FG). Until a few years ago, the FG comprised two officials: the Comptroller of Income Tax and the International Affairs Adviser. Over the last few years, this has been extended so that the FG added a further five officials: the Treasurer of the States, the Director of International Finance, the IS/Finance Director, the Economic Advisor to the States, and the Head of Financial Planning.

The FG adheres to the principle of being conservative and prudent in their forecasting, i.e. erring on the side of safety (so as to avoid the situation whereby expenditure plans based on optimistic forecasts might fall short of funding). Aside from Income Tax, the only data that the FG use extensively in their forward planning is projections on inflation and related to that, earnings and economic growth.

4.2 Data issues

Largely because of historic resource allocation and prioritisation, Jersey does not produce a detailed set of National Accounts. An earlier attempt to do so, as a one-off exercise in 1998, was based on the limited official data available at the time and a low response sample survey of businesses. Data on Jersey's economy has only been compiled in accordance with the United Nations System of National Accounts and the guidelines of the US Economics and Statistics Administration since 2004. Macroeconomic estimates such as Gross Value Added (GVA) and Gross National Income (GNI) have been produced back to 1998.

Under the United Nations System of National Accounts framework, the economy of a jurisdiction can be considered from three approaches. Production (based on the difference between the value of an output (goods and services) and the value of the inputs used in the production process); Income (relating to the income earned by resident economic units (individuals or corporations) in the production of goods and services); and Expenditure (relating to the expenditure on finished or final goods and services produced in a domestic economy). Each of these three approaches enable aggregate measures of economic activity to be determined by summing over all resident economic units.

The practical methodology which has been developed in Jersey is based on the income approach. Since the National Account aggregates were published in September 2004, there has been a focus on consolidating the methodology and the robustness of the data which contribute to the calculations. New data, which has been collected by the Statistical Unit since their first publication in order to get a more accurate measure of GVA, GNI and GDP, include:

- Net Interest Income of banks (in total and with respect to Jersey resident economic units);
- Bonus and benefits in kind (separately) of finance sector workers (part of 'Compensation of Employees', CoE, component of sectoral GVA);
- Profits before and after distribution to partners in order to enable more detailed cross-check with Income Tax data;
- Updated distributions of household tenure and dwelling size (from Social Survey introduced in 2005); these feed into calculation of owner-occupied imputed rent (OOIR), rental income of private households and benefits in kind of employees in certain sectors.

Since 2004, the Statistical Unit has also increased and improved the coverage of the annual Earnings survey and the Survey of Financial Institutions (SFI), improving the accuracy and reliability of the earnings and profit data.[17]

Discussions with officials about all data issues connected to forecasting were very illuminating. There were several suggestions made about how the current methodology for calculating national income could be enhanced. Indeed, there is a threat to the current methodology. Under a 0/10 regime, non-Jersey owned non-Finance companies would not be required to file returns with Income Tax. The total gross operating surplus of non-finance sectors in 2007 was approximately £300 million (i.e. less than 10% of total GVA). A proportion of this will still be recorded by Income Tax as Jersey-owned businesses or via the look-through mechanism, but a proportion will not. There are also well-known problems measuring the output of the finance industry in terms of national income purposes and an expenditure-based estimate would be useful to judge against the income-based estimate. To do this it would be necessary to gather meaningful trade data to help develop expenditure and output approaches to calculate national income.[18]

Discussions on developing the expenditure and output approach considered whether this would improve the timeliness of the data, or if it would give extra information if the Jersey economy were to face a period of positive or negative economic growth.[19] In essence it would not. The Statistical Unit publishes the aggregates from the income approach within about four to five weeks of the availability of the necessary earnings data and within about two weeks of the provision of suitably accurate tax forecast information for the calendar year in question (these forecasts are checked with the actual data in subsequent years). The largest component of the aggregates (the profits of the finance sector) are derived from the SFI (run by the Statistical Unit in Q2 each year and published in that July) and not from tax forecasts. The Statistical Unit rely on the tax forecast information provided to them each mid-September as a cross-check of the information they have already gathered

[17] The SFI does not equate with eventual profits which come through for tax. See Section 4.5.

[18] When the Panel met with the Fiscal Policy Panel (FPP) in July, the FPP indicated that they would have liked better data on trade.

[19] There have been occasions when it has been very difficult to judge how fast or slow the economy was growing. A classic example is 2004, when the authorities received official confirmation that the finance sector has been in a recession for the previous two years. Although the Forecasting Group had realised that the economy had slowed down ï indicators were there in terms of employment growth ï the problem was that GNI figures were not available until two years after the event, because company profit figures were two years in arrears.

via the SFI and for the profits of the non-finance sectors. So the confirmation of the economic downturn in calendar years 2001ï 2002 was only confirmed by this methodology in 2004 because that date represented the first time the Statistical Unit were intellectually in a position to publish (for calendar 2003) and not because of the lack of availability or tardiness of data. The Statistical Office is now in a position to confirm economic performance about 9 months after a given calendar year, e.g. the real-term growth in 2005 (first for several years) was confirmed in September 2006.

Several witnesses said that it was important to maximise the use of the data but cautioned against data mining and collecting information which would never be used. It should be possible to improve the collection of income tax data. There is patchy information on profit streams of non-finance institutions, a little more now on lawyers and accountants (if they want to comply!) but there is not information other than that collected by Income Tax on income estimate basis. Several officials noted that this was not very accurate and should be improved.

4.3 Timing of the forecast

The financial forecasts are prepared three times a year as standard, in support of the annual financial planning cycle (the planning cycle is illustrated in Appendix A).

The three scheduled forecasts are:

- February ï based on provisional outturn and to inform the annual Business Plan which is debated in September (draft spending plans are prepared by the end of March);
- June ï based on final outturn from previous year and first quarterõs trends for current year to include as the financial forecast published in the draft annual Business Plan;
- September ï based on trends for first half year, in the case of income tax the current year assessments. These forecasts are produced to inform, and be published alongside, the Budget proposals.

In addition to these scheduled reviews monthly data is prepared and analysed for Impôts duties and Stamp Duty.

The process summarised above describes probably one of the most extended budget cycles in the world. This is arguably a double-edged sword: information about the economy is in the public domain for a considerable time (which shows transparency), but at the same time it encourages political input at every stage in this protracted process.

The two key sources of information in this annual cycle are (i) the current year assessment of income tax data which is available in the summer and used to inform the forecast which is published alongside the Budget (ii) the outturn figures from the previous year ï provisional figures became available in February and the final outturn in June ï and these are used to inform the Business Plan. With reference to income tax assessments, analysis of these figures is not available until after the Business Plan has been lodged in July of the current year (Y). There are better estimates available for the Budget in November. The outturn information in February, on the other hand, generally results in relatively minor adjustments (e.g. in 2007 the adjustment had been in the order of just £2m). Another timing problem occurs with the earnings index, which comes out in June of the current year (Y). When the forecast is being made for Y+1 in January of the current year (Y), the complete figures are not known for Yï 1. In this instance, the FG has to take a view of what earnings will be over the missing part of the year, which can lead to all sorts of measurement problems. For employment growth, there will be figures only up to September of the previous year (Y-1), so there are considerable difficulties in estimating employment growth for the current year, let along future projections.

Despite the difficulties associated with the timing of the forecasts, the International Affairs Adviser noted that when he was in charge of the forecasting process as Economic Adviser, he basically tried to produce a forecast which was plus or minus 3% in terms of the actual. This did seem a very ambitious target and which appears not to have been met recently (see Sections 4.9 and 4.10). It is certainly the case that the nearer the date of the outturn of the forecast, the smaller the variance. For example, the October update forecast for 2008 (published in October 2008 for the 2009 Budget statement) is based on the company and personal assessments for the current financial year (completed by end of August) and this is expected to be within the 3% variation compared to the final outturn three months later. It would, however, be rather unrealistic to expect that the first estimate for 2008 (i.e. for the 2008 Budget statement published in October 2007) to be as accurate as within 3% variance.

4.4 Income Tax Forecasts

The preparation of the Income Tax forecast is the responsibility of the Comptroller of Income Tax. Detailed information regarding the latest tax assessments and collection data is provided by the Director of Finance and ICT for Income Tax and information on past trends and assumptions is provided by the Head of Financial Planning in the Treasury.

The group focus initially on the latest assessment data. In February and June this information is based on the previous yearôs assessment, but by September the current yearôs assessment for companies, traders and individuals are substantially complete and these are used as the basis for the forecast.

At each meeting the joint experience of the group is shared in terms of current and future trends, but also in terms of significant organisational or economic changes. Having established the appropriate base for the forecasts and any significant variations from the discussions, the group then focuses on the appropriate assumptions for the forecast year. These assumptions are predominantly influenced by the current inflation and average earnings figures and the figures and trends which are available relating to business profits.

A consensus is agreed on the specific assumptions for each tax schedule and in general a common factor is agreed for all future years relating to inflation and growth prospects.

The final assessment is to take account of any outstanding tax measures which have not yet been implemented and to include an estimate of the potential effect on States revenue. In recent forecasts this has included an adjustment for the move to a ó0/10ô corporate tax structure, the ó20 means 20ô provisions and ITIS. As a number of officials discussed, tax forecasts are extremely difficult to predict, particularly in terms of wage increases, business and company profitability, the impact of new individuals entering the workforce and their earnings potential, and the formation and liquidation/migration of companies to other jurisdictions. Despite this, officials admitted that one thing they should be able to predict quite well is tax revenues from earned income. In 2007 they were quite a long way out and argued that this was because there were too many variables to try to pin down the driver.

The agreement of these assumptions then allows the Head of Financial Planning to compute the predicted tax revenues. On occasions, the FG may request further analysis or investigation of particular figures or sectors which will be carried out by the Comptroller and his staff and then fed into the figures.

A final set of forecasts is then circulated and agreed by the group for submission to the Minister. Typically the Comptroller and Treasurer would then present and discuss the findings of the group with the Minister and the forecasts would be agreed. The Minister is generally advised that the figures could from experience have up to a 3% tolerance, although with the forecasts for the impact of ó0/10ô a range of £15m or almost 20% has been identified.

In 2004, Oxera developed a tax-forecasting model and did some formal work on tax revenue forecasting, based on historic data to 2002/2003. In addition to this formal work, Oxera have also been involved in using the tax-take model (which was designed for a different purpose and only models personal income tax, GST etc) to produce some estimates of personal tax take under certain assumptions (e.g. future patterns of wage growth). This tax forecasting work was conducted pre-0/10%, and although it appears that the introduction of 0/10% would make some of the forecasting easier, the main data issue ï the forecasting of taxable profits of the finance sector ï remains the same. Current turmoil in this sector would also increase the difficulty of forecasting accurately. In addition, across the transition from 20% to 0/10% the forecast modelling would not necessarily be robust. This arises because the introduction of a significantly new tax structure presents different issues from trying to forecast the changes in the current tax base, which is the core of the Oxera model.

With respect to personal taxation, it appears that the advantage of the Oxera tax take model has to some extent been overtaken by the digitisation of the actual tax records, which allows some easier analysis of the complete data set. In 2004, it was stressed that one of the advantages of the Oxera tax forecasting model was that it took into account ólikely economic and other trends and developmentsô whereas the ócurrent tax forecasting framework employed by States of Jersey makes few provisions for future changes in economic conditions and assumes that they will remain broadly unchanged from those of todayô[20] In 2008, it appears that the forecasting process still suffers from the same weaknesses as in 2004 (see Section 4.10).

[20] óProgress Report: Income Tax Forecasting Modelö, Oxera, 17 Aug. 2004.

4.5 Corporation Tax Forecasts

Income tax paid by corporations in Jersey has historically been assessed with a two-year time lag, i.e. tax for the current year (Y) is paid in Y+2. However, with particular relevance for the timely estimation of national accounting aggregates, reliable forecasts of potential tax liability and yield for year Y are produced by August of Y+1, based on predicted gross and net profit as well as income from other sources such as dividends, rental and other property income.

One of the problems for tax forecasting is that the figures for profits from the SFI do not equate with eventual profits which come through for tax ï the figures collected are for profit before tax. In a period for loss provisioning under the Jersey tax system, banks can decide when to take loss provision in the current year (Y) or Y+1. There are also other offsets so it is necessary to adjust the forecasts. A further problem is that there are a number of larger companies that have not submitted completed accounts and returns going back some four to five years, so the data is incomplete. Consequently, trying to accurately predict corporate tax revenues in Jersey presents formidable problems.

4.6 Impôts Duties

The Customs and Immigration Service has collated the quantities of imported goods liable to excise (impôts) duty on a quarterly basis since 1995.

Prior to 2006 the Service compared the actual figures imported against the same period for the previous year to estimate and forecast revenue yield from excise duty. In 2006 methods of improving the accuracy of revised estimates were discussed with Treasury officers. In an attempt to achieve greater accuracy, analysis is now undertaken on a quarterly basis making use of the previous five-year trend and applying that figure to the actual quarterly yield. If necessary, adjustments are then made to the year end estimate. This method is intended to provide estimates of increasing accuracy when the actual yield from the first, second and third quarters are analysed in turn. Applying adjustments based on this method can be subject to distortions caused by varying patterns of importation each year and this is especially so in the earlier parts of the year.

Although the revised method of calculating the yield estimate has increased the accuracy compared to previous years, inconsistencies in the quantities of alcohol and tobacco imported during the closing months of the year makes it unlikely that any estimate of the final yield will be precise.

Clearly, consumption of excise goods is a matter of personal choice, particularly for alcohol and tobacco products. The quantities consumed throughout any given year and the subsequent yield can depend greatly on a number of divergent factors. These may include changes in local legislation, changes in attitude to health and the environment and even the prevailing weather.

4.7 Stamp Duty

The Treasury receives monthly information from the Registrar of Deeds in relation to the documents processed and the duty paid. The Treasury has also collected information back to 2002 to provide trend data to assist with forecasting. The information enables a breakdown of the single Stamp Duty figure, which is held on the States financial system.

Since the last increase in duty on property/realty sales in 2004 this type of duty has made up over 70% of the total Stamp Duty and is therefore the focus of the forecasting work. Similar data is however available and analysed for most of the individual document types. Each month the data is analysed and a revised forecast for the year is prepared. The simple monthly forecast is based on the year to date figure being extended by the average trend for the remaining months of the year. The average trend is drawn from the historic data back to 2002.

The average trend has proved to be fairly consistent and evidence suggests that this is influenced by the number of Royal Court dates in a given month, which in turn tend to be fairly consistent relative to the number of Fridays in a month, also adjusting for public holidays. At the time of each formal forecast a further set of data is produced. This provides a simple extrapolation of the current year to compare against the trend figures and then finally an extract of any significant individual transactions. In recent years there have been some significant individual transactions and care has been taken to allow for these in any forward forecast on the basis that these are more likely to be ‘one-off’

The presentation to the Minister is then a recommendation for a current year forecast together with a discussion of the assumptions for future years. The forecast for future years, for the principal component of realty sales, can be influenced by a number of factors:

- The state of the economy influencing consumer confidence and volume of sales.
- The level of house prices, also likely to be influenced by the economy and the level of interest rates.
- Any plans or proposals for changes to Stamp Duty or the underlying rates.

4.8 Island Rate and Other Income

The Island Rate is a new revenue to the States but is fairly straight forward to calculate. The rate increases each year by statute by the Island retail price index.

Insofar as Other Income is concern, there are a number of components to this. Each of these are reviewed at each forecast date but in most cases the most reliable forecast will relate to the previous year's actual, or current year to date, adjusted for any known changes in volume or collection.

In recent years the variations have tended to be exceptional, in 2006 the main variations were represented by special dividends which were not known at the time of the 2006 Budget or Business Plan. Typically, Other Income is more predictable.

4.9 The relationship between economic growth and tax revenues

Several officials pointed out that one of the problems with forecasting in Jersey is that faster rates of economic growth do not necessarily translate into tax receipts because of the nature of the tax base. For instance, the financial institutions pay tax on profits which are in large part derived from the return obtained on capital and retained earnings and which have nothing to do with trading performance year-on-year. Equally, there are a lot of investment income tax paying companies (e.g. money box companies) which produce a significant proportion of tax total but are also disconnected from GDP.

Work has been undertaken by the Treasury to establish what relationships exist between economic growth/decline in Jersey (measured by changes in óRealô Gross Value Added) and the accuracy of forecasting General Revenue Income (GRI) in the Annual Budget and Business Plan. Table 1 provides a key for the figures which follow. The óOriginal Budgetô is from the relevant yearôs budget book, the óRevised Forecastô is from the following years Business Plan, and the óProbableô out turn is published in the following yearôs Budget.

Table 1. Period of time before Actual Year end, Financial Forecasts produced.

Terminology used in Figure 1	Source Financial Planning Document:	Month Financial Forecast Published	No. Months before Year End Financial Forecast Published
Original Budget	Budget (Y)	Oct (Y-1)	15 Months
Revised Forecast	Business Plan (Y+1)	June (Y)	6 Months
Probable	Budget (Y+1)	Oct (Y)	3 Months
Actual	Actual (Y)	Jan (Y+1)	0 Months

Y = Year

Figure 1 and Table 2 show the variance between actual and forecast over the period 1999 to 2007. This shows that the variance between actual and forecast income has deteriorated in recent years (it does of course improve in accuracy as the publications were produced closer to the financial year end) and is well outside the 3% range which used to be the target.

Figure 1. General Revenue Variances Between Outturn and Forecasts

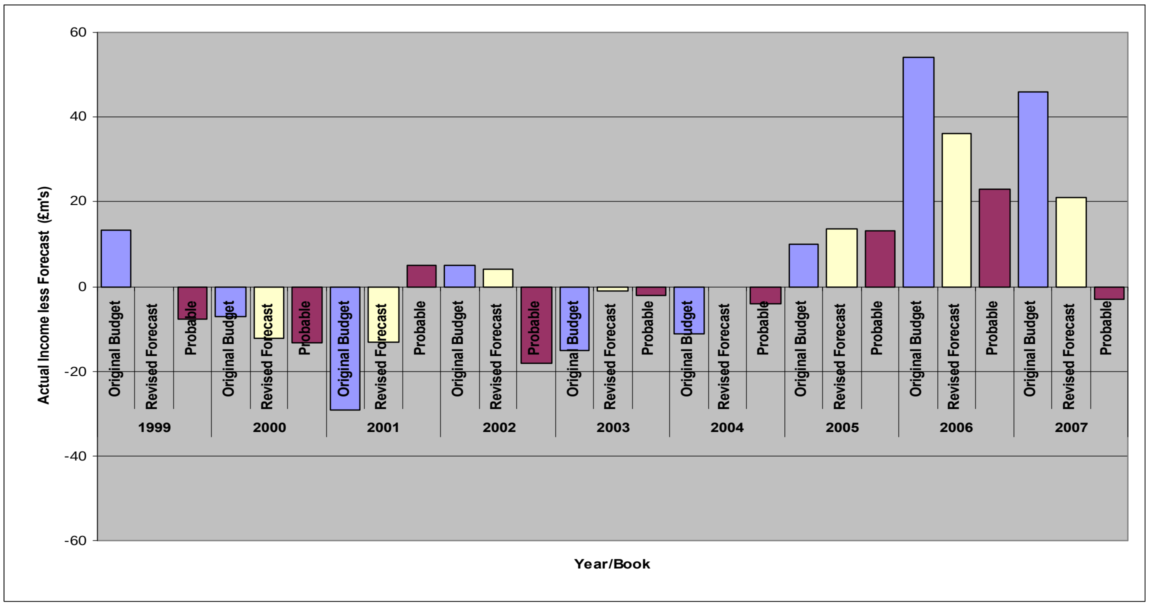


Table 2. General Revenue Income variance between Financial Forecasts and Actual

Average Variances:	1998–2007	2003–2007
Original Budget	4.71%	5.30%
Revised Forecast	2.26%	2.29%
Probable	2.18%	1.81%

Figures 2 and 3 compare the level of economic activity on the island with the financial forecast. These show that during periods of economic growth, GRI forecasts tend to be under estimated when compared to actual. This is evident when looking at 2005, 2006 and 2007, three years where the Jersey economy experienced high economic growth. Conversely, during periods of declining Gross Value Added (GVA) there is a tendency to over estimate the levels of expected GRI, such as in the period 2001 to 2004.

Figure 2. Original Budget, 1999ï 2007

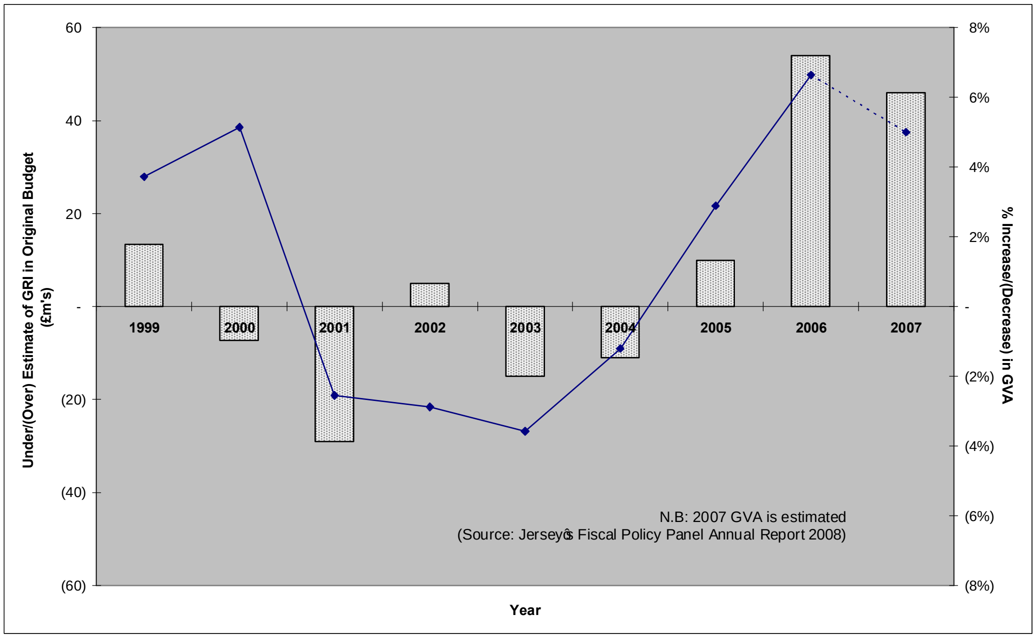
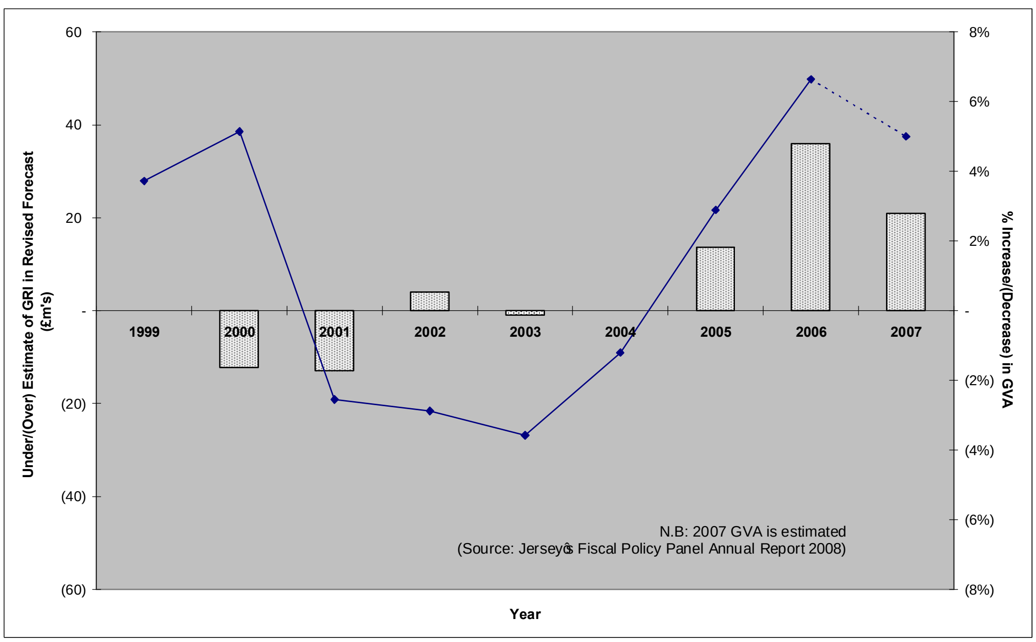


Figure 3. Revised Forecast, 1999ï 2007



4.10 Concerns about recent forecasts

As Figure 1 shows, over the period 1999 to 2007, 12 of the forecasts were underestimates of the out-turn, and 13 were over estimates of the out-turn. The key things to note are:

- Variations in income forecasts are relatively small for the years 2002 to 2005. 2006 and 2007 have shown a greater level of variation from the estimates.
- Substantial deficits in long-term forecasts have been addressed through decisions taken by the States on new fiscal measures and spending reductions. As a result the outcome for all years show an actual improvement on the long-term forecasts.
- The final three years of the period studied (2005 to 2007) have resulted in surpluses despite initial forecasts of deficits.

Although the figures in Section 4.9 dispel any assertion that forecasts are either being consistently under or over estimated, it is of particular concern that there have been big underestimations of income in recent years when economic growth has been buoyant. What are the likely causes for this?

First, policymakers did not anticipate the pace of economic growth between 2005 and 2007. Whether or not this could have been built into the financial forecasting process is a moot point. Aside from data on income tax, the only data that the FG use extensively in their forward planning is projections on inflation and related to that earnings and economic growth. It has been noted above that faster rates of economic growth do not necessarily translate into tax receipts because of the nature of the tax base, but what were the assumption behind some of the forecasts during these years?[21]

Secondly, officials discussed how changes to the tax system have made it difficult to forecast revenue streams in recent years. However, several of the major reforms to the fiscal system have only just begun to have an affect on tax revenues. If anything, there will be a greater variance between actual and forecast over the next few years, not least

[21] The Corporate Services Finance Sub Panel was told at a meeting with Treasury and Resources Minister on 7th March 2008 that the base evidence behind the assumptions would be made available but this has not been forthcoming. It is known that an assumption is made for 2% economic growth.

because of the buoyant growth of the Jersey economy in 2008 (countered by the affects of the credit crunch working through the Jersey economy into 2009).

4.11 The growth of States expenditure

A corollary of the under-forecasting of income in recent times has been comments in some quarters that this has been done deliberately, to act as a ‘brake’ on States expenditure. It must be emphasized that while there is no evidence to prove that this is the case, it is easy to see how this conclusion might be reached. Equally, however, if this was a deliberate act of policy it has failed to curb the growth of expenditure!

Figure 3 illustrates actual versus forecast Gross Revenue Expenditure (GRE) between 2000 and 2007 and shows how budgets were revised, as the relevant financial year drew closer. For example, for the year 2000, numbers represented on the graph were taken from the following documents:

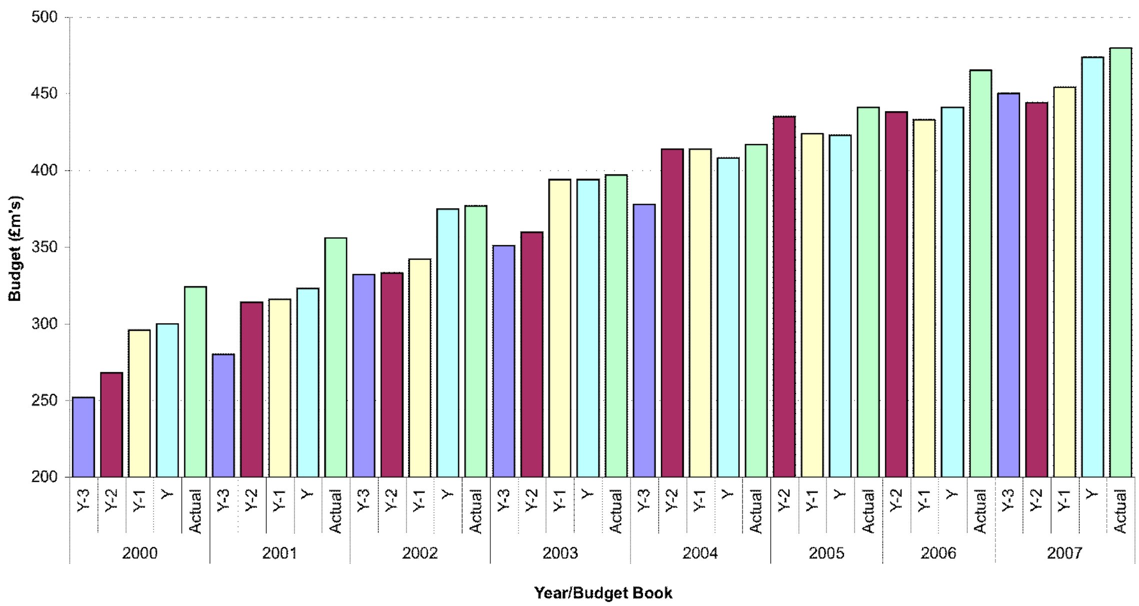
Y-3 = budgeted amount for 2000 GRE, as found in the 1997 Budget,

Y-2 = budgeted amount for 2000 GRE, as found in the 1998 Budget,

Y-1 = budgeted amount for 2000 GRE, as found in the 1999 Budget,

Y = budgeted amount for 2000 GRE, as found in the year 2000 Budget.

Actual versus forecast Gross Revenue Expenditure, 1997ï 2007



Although Figure 3 illustrates the enormous increase in expenditure over this period, there has been a considerable progress in adhering to spending plans in recent years. This is confirmed in the lowering of the variance over time, as illustrated in Table 3.

Table 3. General Revenue Expenditure variance between 1997 and 2007

Year	Y	Y-1	Y-2	Y-3
2007	1.25%	5.42%	7.50%	6.25%
2006	5.16%	6.88%	5.81%	ï
2005	4.08%	3.85%	1.36%	ï
2004	2.16%	0.72%	0.72%	9.35%
2003	0.76%	0.76%	9.32%	11.59%
2002	0.53%	9.28%	11.67%	11.94%
2001	9.27%	11.24%	11.80%	21.35%
2000	7.41%	8.64%	17.28%	22.22%

However, there are no grounds for complacency. Current processes are inherently incapable of planning public finances effectively, because whilst Treasury officials have the responsibility for producing adequate information and advice on which spending decisions are made, and the Council of Ministers has responsibility for bringing spending proposals to the States, under the system of government in Jersey sole responsibility for approving expenditure lies with the States, so it is only the States that can ensure financial plans are adhered to. Under the present system, not only is accountability diffuse, but there is no single point at which priorities are determined, which makes expenditure prioritisation impossible. Moreover, whilst the Council of Ministers are required to assess the full resource implications of their proposals, individual States members can bring forward, and gain approval to, uncosted initiatives.

This last point is especially prescient given the comments of the FPP in their report of August 2008. The FPP noted:

> the two main risks [are] that tax revenue does not increase as much as forecast and that expenditure growth turns out to be higher than forecast. The forecast fiscal stance for 2008 and 2009 is broadly right given the economic conditions, but there is a risk that Statesô finances could deteriorate significantly in the medium-term. Therefore this yearҁs Business Plan and Budget should, if possible, avoid taking decisions that undermine the tax base or increase expenditure at a rate above that currently forecast.

(Jerseyҁs Fiscal Policy Panel Annual Report 2008, p. 36)

One month after the publication of this report, the States ignored the advice of the FPP during the debate on the 2009 Business Plan and revised net expenditure upwards by £10 million per annum. Given the projected fall in States Income for 2010 and 2011 (coupled to the uncertainties about the impact of the credit crunch on Jersey in the next eighteen months) this throws the spotlight on the issue of how to control public expenditure.

While the strengthening of the business planning process has been a welcome development of recent years, it does appear that the business plans tend to overlook some pressures which could reasonably have been foreseen. There is a failure to identify the full resource implications of initiatives and whilst there has been considerable progress made in integrating legislation and capital projects into the business planning process, the failure to undertake proper cost benefit analysis on legislation, capital and other projects needs to be addressed.

Appendix Two

The Sub Panel is grateful to the following civil servants and other experts who were interviewed by the Sub Panel's adviser, Professor M. Oliver.

- The States Economic Adviser
- The International Affairs Adviser
- The Comptroller of Income Tax
- The Treasurer of the States
- The Head of Financial Planning
- The Head of the States of Jersey Statistics Unit
- The Comptroller and Auditor General
- Mr. F. Barnes, Oxera
- Mr. C. Allsop, Fiscal Policy Panel

Appendix Three - Financial and Business Planning Cycle