1.   Introduction

This consolidated working draft note brings together the nine scenarios that have been modelled for Jersey over the last few months using the OXERA CGE model of the Jersey economy. In modelling the outputs, a reasonably optimistic view has been taken of the way in which Jersey's exports will be treated by the rest of the world. A number of scenarios have been modelled, including runs that keep the working population as it is, let it grow at 1% per annum, and have it unconstrained. In addition, the scenarios model varying levels of export demand for Jersey products and varying levels of efficiency gains.

The nine scenarios are presented below.

1.   In scenario 1, the minimum is done to retain the financial services sector in Jersey; in effect, nothing much else is done. However, because the rest of the world economy grows, there is increased export demand for Jersey output. Thus, the economy of Jersey grows as it responds to that increased demand. This is designed to represent the minimum reactive response to the current challenges facing the financial services sector

2.   In this scenario, the minimum is done to retain the financial services sector in Jersey. In addition, all parts of the economy experience an increase in their efficiency. This is designed to represent a world where the economy (in particular, tourism and agriculture) responds effectively and efficiently to the challenges facing it.

3.   This scenario is similar to 2, except that the efficiency gains are concentrated in the non-financial services sectors of the economy.

4.   In the fourth scenario, no action is taken on the reform of the corporate tax structure and, as a result, the provision of financial services in Jersey becomes internationally uncompetitive. This is designed to represent the 'do nothing' option.

5.   In scenario 5, the financial services sector of the economy is allowed to expand rapidly. In addition, the population is allowed to expand in order to meet the labour demand in the financial services sector. This is designed to represent a policy of embracing the financial services sector.

6.   In this scenario, significant effort is made to nurture the financial services sector. As a result, it can increase its efficiency by a total of 7.75% over five years. The rest of the economy does not change its efficiency. This makes Jersey comparatively more competitive than its competitors in financial services; thus, demand for financial services from Jersey increases. However, the (working) population is held at its current level. As a result, the economy of the

Island adjusts by sucking in proportionally more labour to the financial services sector and reduces the labour in the other parts of the economy.

7.   As in 6, but the working population can grow at around 500 per annum.

8.   As in 6, but the working population is unconstrained.

9.   In the ninth scenario, the minimum is done to ensure that the financial services sector remains in Jersey, and its relative competitive position remains the same. The rest of the economy does not change its efficiency, but, as a result of the increased tax burden placed on the economy, it becomes slightly less competitive.

There are limitations to these scenarios, as outlined below.

•   The models operate by changing the economic parameters of the economy (giving the economy a 'shock'). The shocks used to create the scenarios in the model are *not* the policy levers that are actually available to the government of Jersey. Thus, translating the shock modelled into particular policy options deliverable by government must be analysed outside the economic model itself. In some cases, this is straightforward (eg, making the financial services sector uncompetitive internationally); in other cases, this is much more difficult (eg, inventing policies that would increase the economic efficiency of the tourism and agricultural sectors). The reasonableness of the link between the shock and real world policy options is, therefore, important in interpreting the outputs.

•   The model is significantly less complicated than the real economy of Jersey; furthermore, the real economy is continually subject to additional shocks that are not modelled. What the model can do is illuminate the complex linkages *between* different parts of the economy (eg, if output rises by X% in the financial services sector, there is also likely to be a rise in output of Y% in the service sector of the economy). As a result, the *relative* positions of the different scenarios are likely to be of a greater value for decision-making purposes than the *absolute* level of the outputs.

•   Where the economy has been expanded by increasing the size of the working population, the net impact on the fiscal position will depend on the demand that these additional workers put on government services (eg, health and education). This will, in turn, depend on the demographic characteristics of these additional workers. This cannot be known in advance, and the impact on the fiscal balance has been calculated using two costs—£2,000 and £4,000 per worker per year.

•   An assumption has been made that 50% of all non-financial services profit in Jersey arises in companies owned by Jersey residents (and so 50% of profits from this part of the economy remain taxed at 20%).

•   All results are expressed in real terms unless otherwise stated.

Although nine scenarios are presented, there are actually many millions of possible outcomes. These scenarios are designed to illuminate the relationships in the economy, and in general represent reasonably practically achievable outcomes. They do not represent all the different options that could be achieved.

2.   First Scenario

2.1   Description

Technical description: export demand for all sectors increases by the equivalent of 2.5% per annum. No other changes are made to the economy. Population increase is constrained to the equivalent of

1% per annum, represented by an equal proportional increase in the labour supply for each of the three skill levels (skilled, semi-skilled, manual).

Real-world equivalents: the corporate tax structure is changed so that the financial services sector is left in an equivalent position in terms of international competitiveness as it is now, and remains so for the next five years. The international competitive position of tourism and agriculture does not deteriorate over the same time period. Sufficient housing is built to accommodate the increase in the labour force.

2.2   Results

Economy: GDP increase of 1.2% per annum over five years, constrained by controls on population growth, which is limited to 1% increase in workers (~500) per annum. Growth is spread fairly evenly over the economy.

Housing: In line with the working population increase, an increase in the housing stock of somewhere in the region 3–5% is required (ie, up to 1,750 standard housing units) in order to accommodate the incoming workers at the same density as at present.

Fiscal position: The expansion of the economy as a result of the increase in export demand makes a positive contribution to tax revenues, even without changing the personal tax structure. The contribution is in the order of £15-£20m per annum.

However, the working population has also expanded by 5% (~2,500), which will increase the demand on public services. This increase in demand will depend on the composition of the new residents. If they are young and single, the increase in the total population is around 3%, and the additional demand for the main public services—education, health and social security—will be minimal. The increase in the working population will also provide additional Social Security contributions. The net benefit to the fiscal position is, therefore, likely to be in the order of £10–£15m per annum.

On a per worker basis, the additional tax required is in the region of £1,150–£1,350 per annum.

3.   Second Scenario

3.1   Description

Technical description: export demand for all sectors increases by the equivalent of 2.5% per annum. In addition, the economy becomes more efficient through an all factor productivity growth of around 4.5% over five years (~ 1% per annum). No other changes are made to the economy. Population increase is constrained to the equivalent of 1% per annum.

Real-world equivalents: under this scenario, the minimum is done to keep the financial services sector as in scenario 1; as a result, the economy is made more efficient and becomes more internationally competitive; this therefore helps to grow the economy. To achieve this, the degree of efficiency gain is significant; moreover, in practice, such a sustained efficiency gain in the tourism and agriculture sector may be hard to achieve. More realistically, this might represent the development of a new industry in which Jersey could be internationally competitive, but which does not have the extreme profitability of international financial services.

3.2   Results

Economy: Total economic growth of 2.5% per annum is achieved. This growth is spread throughout the economy.

Housing: In line with the population increase, a 3–5% increase in the housing stock (ie, up to 1,750 standard housing units) would be required in order to accommodate the incoming workers at the same density as at present.

Fiscal position: The increase in the efficiency of the economy helps to meet the fiscal deficit caused by adopting the 0%/10% corporate tax structure. The direct contribution from income tax is in the order of £20–£25m per annum.

However, the working population has also expanded by 5% (~2,500), which will increase the demand on public services. This increase in demand will depend on the composition of the new residents. If they are young and single, the increase in the total population is around 3%, and the additional demand for the main public services—education, health and social security—will be minimal. The increase in the working population will also provide additional Social Security contributions. The net benefit to the fiscal position is, therefore, likely to be in the order of £15–£20m per annum.

On a per worker basis, the additional tax required is in the region of £1,050–£1,250 per annum.

4 Third Scenario

4.1 Description

Technical description: export demand for all sectors except the financial services sector increases by the equivalent of 2.5% per annum. In addition, this part of the economy becomes more efficient through an all factor productivity growth of around 2% per annum (~11% over five years). The financial services sector is kept at the same level in the economy as in scenario 1. No other changes are made to the economy. Population increase is constrained to the equivalent of 1% per annum.

Real-world equivalents: under this scenario, the minimum is done to keep the financial services sector as in scenario 1; as a result, the economy is made more efficient and becomes more internationally competitive; this therefore helps to grow the economy. To achieve this, the degree of efficiency gain is significant; moreover, in practice, such a sustained efficiency gain in the tourism and agriculture sector may be hard to achieve. More realistically, this might represent the development of a new industry in which Jersey could be internationally competitive, but which does not have the extreme profitability of international financial services.

4.2 Results

Economy: Total economic growth of 2.5% per annum is achieved. This growth is concentrated in the non-financial services parts of the economy.

Housing: In line with the population increase, a 3–5% increase in the housing stock (ie, up to 1,750 standard housing units) would be required in order to accommodate the incoming workers at the same density as at present.

Fiscal position: The increase in the efficiency of the non-financial services parts of the economy help to meet the fiscal deficit caused by adopting the 0%/10% corporate tax structure. However, because it is the non-financial sector that is growing, the net contribution to tax revenues is more limited, especially as employment in the financial services sector shrinks a little. The fiscal outcome is slightly worse than scenario 1. Tax revenues are down by around £3.5m per annum.

On a per worker basis, the additional tax required is in the region of £1,250–£1,400 per annum.

5 Fourth Scenario

5.1 Description

Technical description: export demand for all sectors except the financial services sector increases by the equivalent of 2.5% per annum. The financial services sector is subject to an increase in costs of 15%. Population increase is constrained to the equivalent of 1% per annum, but this does not have any impact as the population falls.

Real-world equivalents: under this scenario, the corporate tax rate is kept at 20% and the Exempt Company structure is kept. As a result, Jersey is uncompetitive in cost terms as a location to provide international financial services. The 15% cost increase is an optimistic estimate of the cost effects of keeping the 20% tax rate for financial services companies. In addition, there is an assumption that no retaliatory action is taken by the UK or EU as a result of the failure of Jersey to remove the Exempt Company structure.

By assuming no technological efficiency increases, and allowing a cost shock to hit the financial services sector, this scenario models a 'do nothing' scenario. No reforms are carried out in the non-financial services sectors of the economy and the financial services sector itself experiences a cost shock reflective of a failure to implement reforms to the corporate tax regime.

5.2   Results

Economy: a serious economic decline ensues as a result of the approximate 50% reduction in the international financial services sector. Although some parts of the non-financial services sector of the economy expand—agriculture and tourism—the rest of the economy contracts as it responds to the reduction in demand caused by the loss of 50% of the financial services sector. The overall result of the failure to reform the tax system causes an overall reduction in GDP of around 25–30%.

Housing & Population: Overall, there is a reduction in the workforce of around 1,800 workers per annum over five years (8,928 in total). The reduction in the working population of Jersey would cause a serious reduction in the demand for housing. House prices would decline and overall, the present housing stock would be spread among a smaller number of people.

Fiscal position: Compared with scenario 1, the fiscal balance has deteriorated by over £50–£70m per annum. There may be a partial offsetting reduction in the demand for public services reflecting the reduction in the population. However, if it is the young and mobile that tend to move away, this reduction may be small. In addition, the structural adjustment of the economy is itself likely to increase some demands on the public services, particularly welfare-type demands for those who become unemployed but do not leave the Island.

The increased deficit and the smaller workforce means that the per worker deficit has increased to something in the order of £3,050 to £3,550 per annum.

6   Fifth Scenario

6.1   Description

Technical description: export demand for the financial services sector is increases by the equivalent of 60% over five years. No other changes are made to the economy. Population increase is not constrained.

Real-world equivalents: this scenario represents an all-out effort for growth by allowing the population and the housing stock to increase freely in order to serve the accumulated demand for offshore financial services in Jersey. The scenario assumes that such demand exists at a level that is around 60% higher than the present level of demand, dependent as a minimum on appropriate reforms to make the corporate tax system internationally competitive, and possibly also on a program of deregulation to create a more competitive environment for the provision of offshore financial services. Given that Jersey represents a relatively small proportion of the total international financial services market, it is not inconceivable that such a rapid increase in the supply on Jersey could be sold internationally. However, Jersey would have to be a very competitive location to achieve this. This scenario, therefore, is likely to represent the extreme of what is possible.

6.2   Results

Housing & Population: there is a large (approximately 50% or 6,000) increase in employment in financial services. A similar number of jobs are also created in the rest of the economy to service this expansion of the financial services sector—in terms of numbers, primarily skilled workers. There is a resultant increase in employment in the services and construction sectors, and slight increases in employment in agriculture and tourism. There is an overall increase in the population of around 2,400 workers per annum over five years (ie, 12,000 in total). This will require around a 25% increase in the housing stock (ie, around 8,750 housing units) to cope with the influx of workers in financial services.

Economy: GDP grows at an average rate of 6% per annum over five years, led by the financial services industry.

Fiscal position: The expansion of the economy adds significant tax revenue to the government approximately in the order of £80m per annum compared with scenario 1. However, with such a large increase in the workforce, and hence population, the demands on public services will also increase, even if, in general, the workers are young, single and healthy.

On a per worker basis, the additional tax required is in the region of £100 per annum (but subject to considerable uncertainty).

7 Sixth Scenario

7.1 Description

Technical description: efficiency gains of 7.75% after five years are applied to the financial services sector. No other changes are made to the economy. Population (working) is constrained to the current level.

Real-world equivalents: the corporate tax structure is changed so that the financial services sector is left in an equivalent position in terms of international competitiveness as it is now. However, other measures are taken that significantly increase the competitive edge of Jersey in relation to its competitor jurisdictions. In particular, labour can easily move between sectors of the economy. However, strict controls are applied to any overall increase in the labour force. An efficiency gain of this size, *relative to competitor jurisdictions*, would be difficult to achieve.

7.2 Results

Economy: GDP increase of 7.5% arises after five years. Growth is concentrated in the financial services sector, which expands its output by around 17%. Most of the rest of the economy shrinks in terms of total output. The labour force is re-arranged, with increases in financial services, and significant decreases in agriculture, tourism and manufacturing. Real wages increase in the economy, led by the financial services sector. This is the mechanism that reduces the output of agriculture, tourism and manufacturing because of increased unit costs.

Housing: In line with the working population being stable no increase in housing is required. (Although in reality, some change in housing type is likely to be required to reflect the changes in the composition of the working population.)

Fiscal position: The expansion of the economy as a result of the increase efficiency of the financial services sector and hence an increase in export demand makes a positive contribution to tax revenues, even without changing the personal tax structure. The contribution from this re-arrangement of the economy is in the order of £12m per annum. As there has been no net increase in the working population, there will have been relatively little impact on the demand for public services.

On a per worker basis, the additional tax required is in the region of £1,300–£1,400 per annum.

8 Seventh Scenario

8.1 Description

Technical description: efficiency gains of 7.75% after five years are applied to the financial services sector. No other changes are made to the economy. Population (working) increase is constrained to the equivalent of 1% per annum, ie, ~500 per annum.

Real-world equivalents: the corporate tax structure is changed so that the financial services sector is left in an equivalent position in terms of international competitiveness as it is now. However, other measures are taken that significantly increase the competitive edge of Jersey in relation to its competitor jurisdictions. The resulting increase in demand for labour in the financial services sector is partially met by allowing an increase in the labour force, in the order of 500 per annum.

8.2 Results

Economy: Total economic growth of around 13% at the end of five years is achieved. This growth is concentrated in the financial services sector (+23%), while agriculture, manufacturing and tourism still decline, but by less than in scenario 1. There is some re-arrangement of the existing workforce, but again less than in scenario 1.

Housing: In line with the population increase, a 3–5% increase in the housing stock (ie, up to 1,750 standard housing units) would be required in order to accommodate the incoming workers at the same density as at present.

Fiscal position: The increase in the size of the economy helps to meet the fiscal deficit caused by adopting the 0%/10% corporate tax structure. Compared with scenario 6, an additional ~£16m per annum has been added to government revenues through the expansion of the economy (~£12m compared with scenario 1). Thus, the effect of the relaxation of the strict population constraint is to increase the tax take by around £16m (under the existing personal income structure). However, some of this additional revenue is likely to have to be spent on the additional public services that this additional population will require.

On a per worker basis, the additional tax required is in the region of £900–£1,100 per annum.

9   Eighth Scenario

9.1   Description

Technical description: efficiency gains of 7.75% after five years are applied to the financial services sector. No other changes are made to the economy. Population (working) increase is unconstrained, and increases by around 8,500 after five years.

Real-world equivalents: the corporate tax structure is changed so that the financial services sector is left in an equivalent position in terms of international competitiveness as it is now. However, other measures are taken that significantly increase the competitive edge of Jersey in relation to its competitor jurisdictions. The resulting increase in demand for labour in the financial services sector is met by allowing an increase in the labour force in the order of 1,700 per annum.

9.2   Results

Economy: Total economic growth of around 30% is achieved over five years. All parts of the economy grow, but the growth is concentrated in the financial services sector, that expands by around 50%.

Housing: In line with the population increase, a 10–15% increase in the housing stock (ie, up to 6,500 standard housing units) would be required in order to accommodate the incoming workers at the same density as at present.

Fiscal position: The expansion of the economy leads to higher tax receipts, (which would more or less balance the loss from moving to 0%/10%). Compared with scenario 6, the fiscal position has improved by around £65m (~£58m compared to scenario 1). However, the expansion of the working population by around 18% would require additional public services.

On a per worker basis, the additional tax required is in the region of £350 per annum, (but subject to considerable uncertainty)

10   Ninth Scenario

10.1   Description

Technical description: a cost shock of 1% is applied to all parts of the economy except the financial services sector. No other changes are made to the economy. Population (working) is constrained to the current level.

Real-world equivalents: the corporate tax structure is changed so that the financial services sector is left in an equivalent position in terms of international competitiveness as it is now. To simulate the likely continued decline in tourism and agriculture and the requirement to raise additional tax from the rest of the economy, a small cost shock (1%) is applied to the rest of the economy.

10.2   Results

Economy: GDP is essentially static. There is a very small movement of workers into the financial services sector and out of the other sectors of the economy, and some minor rearrangement of workers within the economy.

Housing: In line with the working population being stable, no increase in housing is required.

Fiscal position: Because the economy is essentially static, the fiscal position does not change, and there is no significant contribution to the tax revenues as a result of changes in the economy.

On the same basis on which the other scenarios are modelled, the deficit per worker is in the order of £1,550–£1,650 per annum.

11   General Comments

These nine scenarios illuminate a number of critical linkages in the Jersey economy.

- Expansion of the financial services sector delivers considerably more benefits per additional worker to the wider Island economy than expanding any other sector of the economy.

- As a result, if labour is displaced from the finance sector to, say, the tourism sector, the *net* position of the Island is likely to worsen, at least in the short term.

- Relying exclusively on the financial services sector creates an economy that not only is

particularly vulnerable to a general downturn in that industry, but also one that gains considerable benefits when that industry is buoyant.

- For any given level of public service provision there is, therefore, a trade-off between lower taxes for Islanders and concentrating all the 'economic eggs in one basket'.

- The process of increasing the work force through the immigration of young, healthy and childless workers delivers the maximum tax advantage to existing Island residents. This arises because they pay taxes (and generate profits) while, on average, making fewer demands on the main public services. However, if they stay on the Island over their lifetimes, their consumption of public services is likely to increase (eg, having their children in local schools, and calling on the hospital services when they are older). Over a longer period of time, the net benefit from expanding the economy through expanding the population is likely to be lower than that indicated above.

- The benefits that arise from expanding the economy by making the existing use of resources—land, labour, capital—more efficient are more permanent through time.