EMBARGOED: 9 October 2023

Guernsey

Fiscal Policy Panel

Report

October 2023

1). Executive Summary

- Guernsey is a small, rich economy characterised by a high level of specialisation and low levels of taxation. Like many similar economies, the rate of economic growth is relatively slow, and the economy is susceptible to external shocks. All these features point to the need for a cautious fiscal stance.

- Like many other developed economies, the population is ageing, creating fiscal pressures paying for pensions and healthcare. While some of these demographic pressures are being managed through increased social security contributions, an ageing population will be a negative fiscal influence for decades to come.

- Using standard measures of fiscal sustainability (stable net government assets relative to GDP) the Panel judge that Guernsey is no longer on a sustainable fiscal path.

- While there has been some decline in financial assets relative to GDP, the most significant fiscal problem is the low level of public investment and the longer-term implications this has for public infrastructure.

- Guernsey's public investment rate is lower than any OECD economy, below its own target of 2% of GDP, and well below the 3% of GDP level the Panel considers appropriate when comparing Guernsey with other economies.

- Against the Panel's definition of fiscal sustainability (requiring capital expenditure of 3% of GDP), none of the three scenarios outlined in the Funding & Investment Plan are sufficient to place Guernsey's finances on 'a sustainable pathway back to long-term permanent balance' or deal with immediate capital pressures.

2). Panel Mandate & Terms of Reference

As per the direction of the Policy Letter titled 'The Review of the Fiscal Policy Framework and Fiscal Pressures' approved by the Assembly in January 2020, a Fiscal Policy Panel has been re-established to provide an independent assessment of the States of Guernsey's fiscal policy and the risks and opportunities it may face in that area.

The Panel consists of three members:

- Dr. Matthew Agarwala (Chair)
- Prof. Francis Breedon
- Dr. Andy Sloan

Appointed in August 2023, the Panel was presented with an immediate and discrete task to provide an independent assessment of the appropriateness and sustainability of the proposals within the current Funding & Investment Plan ('F&IP'), which was published on 7th September 2023.

Specifically, the Panel was requested to:

- Review the F&IP, together with the relevant background provided in other published documentation (such as the Government Work Plan, States of Guernsey Accounts and the Tax Review);
- To provide opinion, based on the available information, regarding whether the States have correctly identified its primary fiscal challenges;
- To provide opinion regarding whether the options presented as solutions to these fiscal challenges are appropriate, viable and sustainable; and
- To provide a view of the economic risks and opportunities associated with these options.

Given the extremely short timescale involved, the Panel made clear on its appointment that its review could only realistically be broad-brushed and high-level touching on the relevant economic issues.[1] It also made clear that its analysis would remain at the macroeconomic level, leaving the determination of preferred policy levers for any changes in expenditure or revenues to the political sphere.

[1] The Panel was established in August 2023, the report was due in October 2023, and the F&IP report was finalised in September 2023. This expedited timeframe has limited the scope for in-depth interrogation of the economic accounts and actuarial positions of key funds, including the pensions and long-term care funds. The Panel's analysis is based on the data with which it has been provided. Revisions to that data may affect the conclusions in this report.

Panel Members

- Dr Agarwala, Chair of the Panel, is an economist at the Bennett Institute for Public Policy at Cambridge and the Tobin Centre for Economic Policy at Yale. He has extensive experience working with governments and scientific organisations around the world.

- Prof. Breedon is Professor of Economics and Finance at Queen Mary University of London, with previous experience at the Bank of England and in senior economic roles in the private sector. He is also a member of the Scottish Fiscal Commission and of Jersey's Fiscal Policy Panel.

- Dr Andy Sloan is the founder of the International Sustainability Institute based in the Channel Islands. He was States Economist some ten years ago, and subsequently served as the Director of Financial Stability and International Policy Advisor for the GFSC, and, more recently, Deputy Chief Executive, Strategy, for Guernsey Finance.

3. Economic Background

This section highlights key features of the Guernsey economy that impact its fiscal stance.

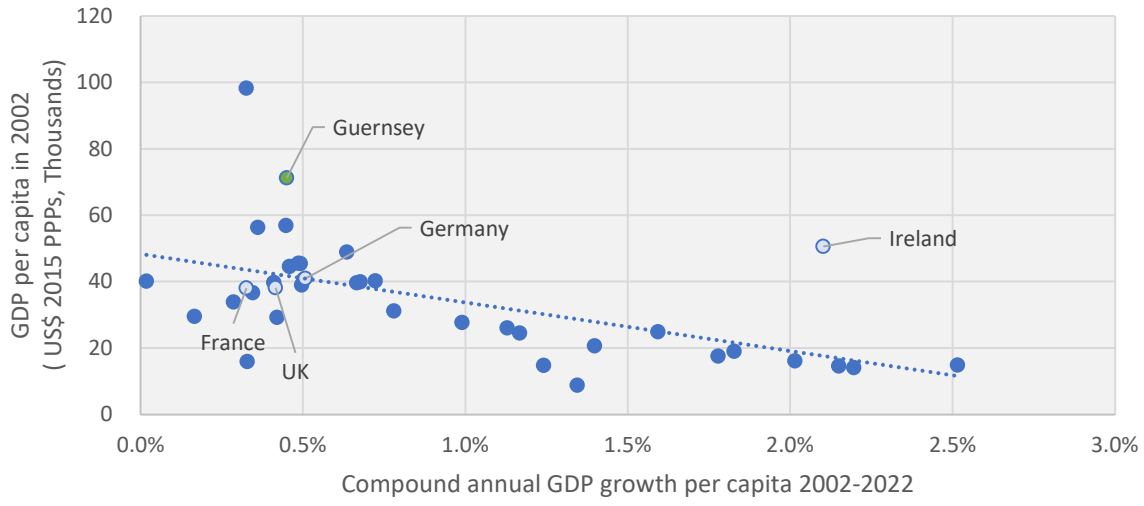
These are:

- As a rich economy it can expect slower growth than its poorer peers - this implies lower debt capacity.
- As a small economy it is inevitably undiversified - this makes the economy more vulnerable to external economic shocks.
- As with most developed economies, the population is ageing which tends to increase required government expenditure and reduce government revenue.
- Guernsey is a low tax economy which means that significant cuts to expenditure may be difficult to achieve.

3.1 Economic growth

As a rich economy, Guernsey tends to experience relatively slow economic growth (about 0.4% per year since 2002[2]). Slow per capita growth is typical in jurisdictions with high GDP per capita, as shown in Fig.1 below.

Fig.1: Average annual GDP per capita vs GDP growth 2002 - 2022[3]



Economists call this 'the iron law of convergence' which suggests that when grouping similar economies (or regions within an economy) together, there is a strong tendency for the poorer economies to grow more quickly than the richer ones. Low economic growth has

[2] The Panel has been advised that the States of Guernsey are actively working on improvements to their Gross Domestic Product ('GDP') methodology, incorporating additional data from the new economic activity return. This is expected to result in a restatement of GDP later in 2023.

[3] *Level of GDP per capita and productivity (oecd.org)*

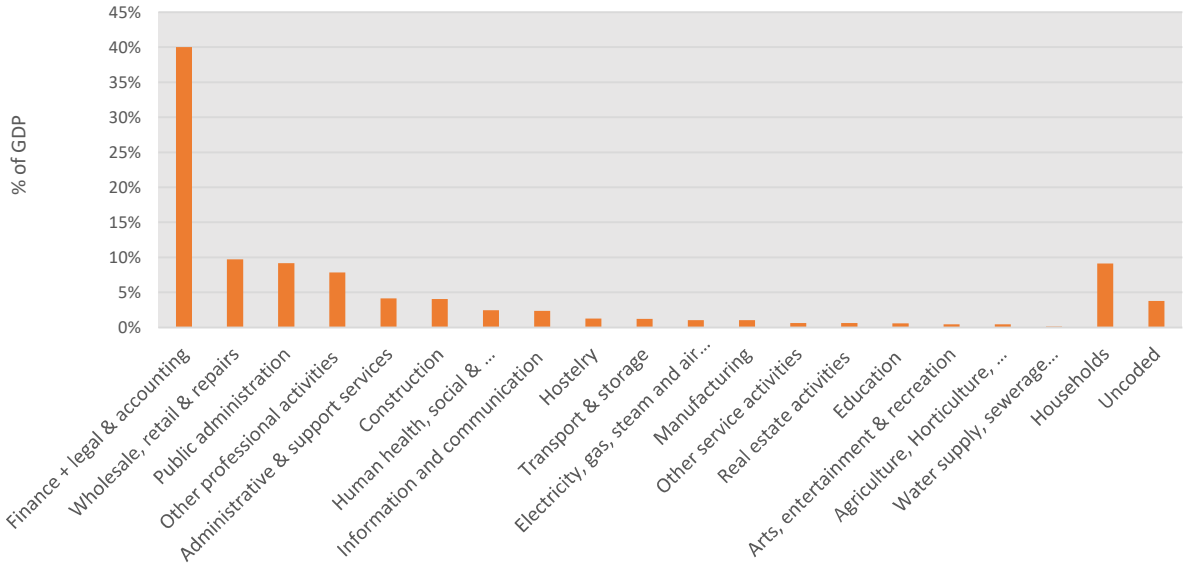
important implications for fiscal policy as it means that government debt is extremely difficult to manage. Effectively, the tendency for growth to erode the value of government debt relative to GDP is reversed in a slow growing economy such that government debt tends to become more onerous over time. This effect means that slow growing economies should run fiscal surpluses[4].

3.2 Concentrated economy

Another important feature of Guernsey's economy which is typical of all small economies is the concentration of economic activity in one key export industry. This reliance is almost inevitable as small economies can only support a small number of industries if those industries are to run at an internationally competitive level of efficiency (i.e. with economies of scale).

In Guernsey, finance accounts for a large proportion of economic activity - about 40% of GDP if including legal and accounting activity services. Although not all small economies rely on finance, a focus on one or two key industries is a universal feature.

Fig:2: Sectoral distribution of Guernsey's GDP



One of the drawbacks of an undiversified export base is that the economy becomes far more vulnerable to external economic shocks either due to terms of trade shocks (price of export goods changing relative to imports) or to more structural changes (where an existing

[4] This stems from the requirement that sustainable finances require the debt/GDP ratio to be stable – this is discussed later in this report. So if D=government debt and Y=GDP so that the debt/GDP ratio is D/Y, if the government runs a primary deficit of zero (deficit excluding interest payments) then debt increases because of the interest rate (r) and the debt/GDP ratio falls because of GDP growth (g). Debt is sustainable if D/Y is not changing and change in D/Y = (r-g) D/Y + Primary Deficit/GDP. Therefore constant debt/GDP ratio occurs when (r-g) D/Y = Primary Surplus/GDP.

industry may become unviable). Box 1 illustrates this effect using evidence from a large number of small economies.

Box 1: Growth volatility in small, specialised economies

Fig.3. below illustrates this problem for a large sample of small economies. The table compares the economic structure and outcomes of small and large developed economies. It shows small economies are significantly less diversified (a high Herfindahl index shows high concentration) and this results in large external terms of trade shocks (which means export revenue can change significantly relative to import costs) and so higher GDP volatility.

Fig.3: Comparing Large[5] and Small[6] Economies (1970 – 2008)[7]

Indicator	Measure	Large high-income Economies	Small high-income Economies
Industry concentration	Herfindahl Index of export industries	0.18	0.40
External shocks	Standard Deviation of terms of trade	5.8	9.2
Economic volatility	Standard Deviation of GDP growth	3.7	5.7

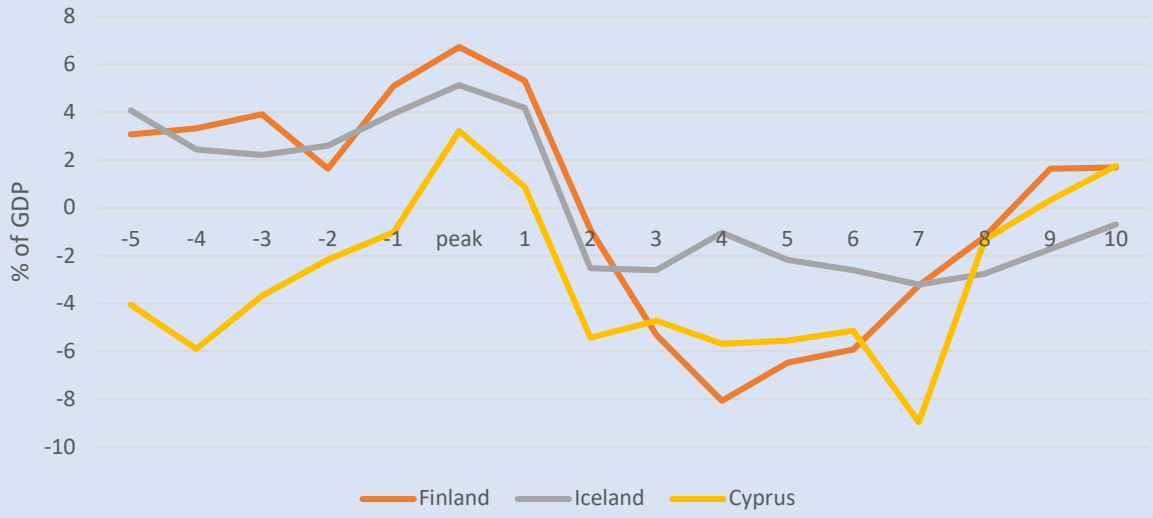
As well as terms of trade shocks described in Box 1, small economies are more likely to suffer significant economic disruption following structural shocks to their main export industry. In finance, this can happen for several reasons such as technological or regulatory changes, or excess leverage. The risk of structural changes is high in the financial sector and would imply huge fiscal costs. Using evidence from other small economies, Box 2 shows that the fiscal costs of managing such disruptions have historically amounted to between 30% and 60% of GDP.

[5] Large economies = all economies with population above 3,000,000 and GDP per capita above $11,500 in 2007
[6] Small Economies = 37 economies with a population between 30,000 and 3,000,000 and GDP per capita above $11,500 in 2007
[7] Breedon, Petursson and Rose (2011)

Box 2: Impact of structural changes on small economies

Fig.4. illustrates the fiscal costs of such structural changes for three recent examples (Finland, Cyprus and Iceland). In all three cases the crisis turned a relatively healthy fiscal position into one of sustained deficits such that the economic transition away from the key industry involved a fiscal cost of around 30% to 60% of GDP. As these transitions left the economies poorer than they were before, it makes sense that small economies should accumulate funds as fiscal insurance against these events before they occur. The Panel suggests taking the range of 30% to 60% of GDP as a guide to the size of financial assets Guernsey might prudently seek to hold.

Fig.4: Small Country Financial Crises: Net Government Lending

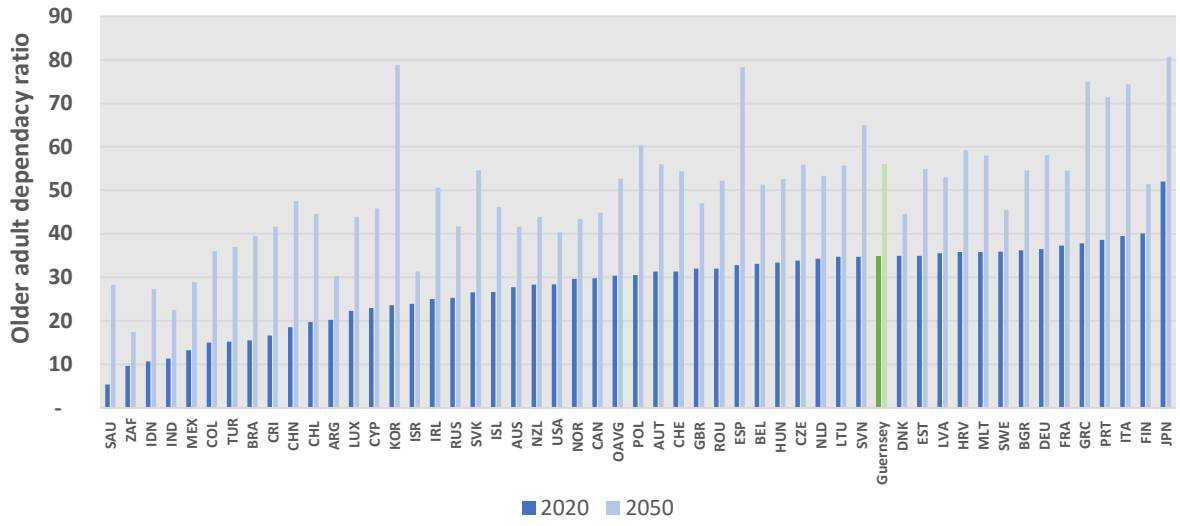


3.3 Ageing population

Like most developed economies, Guernsey's population is ageing, which has significant fiscal implications. A simple economic metric that captures the impact of ageing is the dependency ratio; in essence this measures the share of the population who are not of working age.

Many developed economies face rising ratios, with the older adult dependency ratio in Guernsey being around average in such economies (see Fig.5) and increasing. Guernsey has taken some steps to manage its dependency ratios, by increasing the pension age to 70 by 2049 (discussed in Box 3).

Fig. 5: Dependency ratio in Guernsey vs other jurisdictions (2020 & 2050)[8]



[8] Demography - Old-age dependency ratio - OECD Data. Note that the definitions used by the OECD differ from those typically used in Guernsey and Guernsey's dependency ratios have been recalculated to be consistent with these.

Box 3 – Dependency ratios and the pension age

The United Nations defines the dependency ratio as the share of the population who are either below 16 or above 64. However, alternative definitions highlighting official pension ages or key demographics are often used as well.

Fig.6: Guernsey's projected dependency ratio with increased pension age[9]

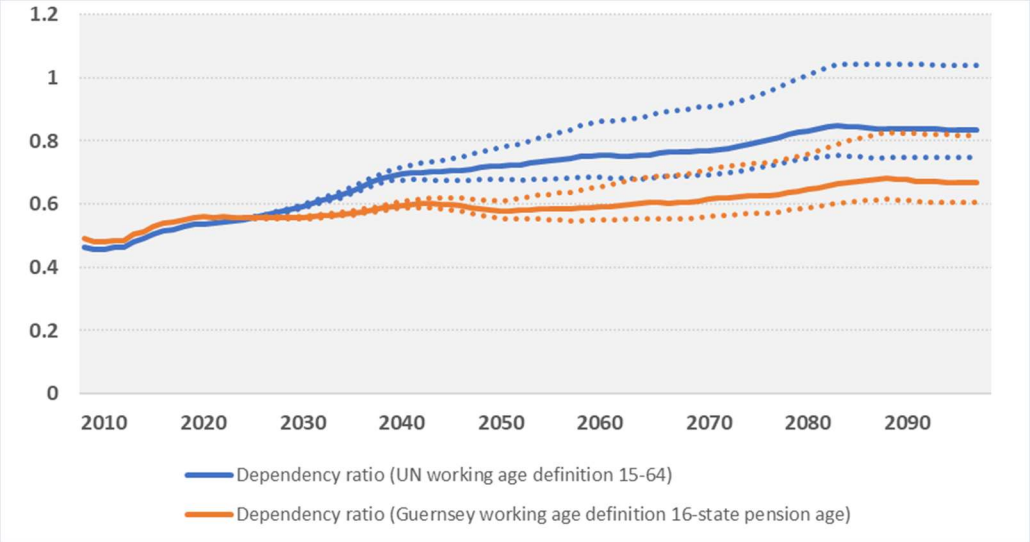


Fig.6 shows dependency ratios calculated under both the UN definition and based on Guernsey's official pension age (which is rising at a rate of 2 months per year from 65 to 70 by 2049). The chart also shows the impact of different net migration assumptions on the future dependency ratio (either +0 for the top dotted line, +150 for the central projection or +300 for the lowest dotted line).

A significant increase in the number of people above state pension age began in 2011 and this trend is expected to continue until the 2060's. The number of people aged 85 or over, who typically require the most care, is expected to continue increasing until 2090 or beyond and is likely to more than double over that timeframe. Steps have already been taken to increase the pension age to 70, which is higher than most other jurisdictions. Even with this change, the trend of substantive increases in older age groups and a smaller percentage of the population in work remains.

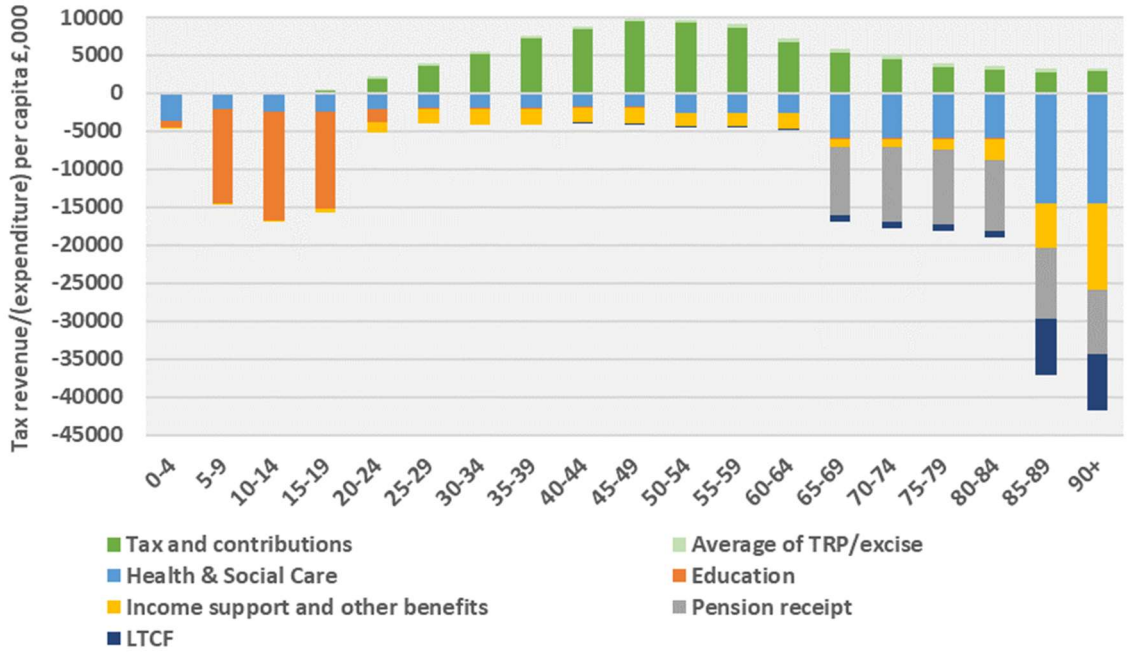
Using the official retirement age to calculate dependency ratios lowers the rate of increase, but there is an important caveat: neither actual retirement decisions nor age-related government spending need be influenced by raising the official retirement age. Some may retire early, others not at all. The main effect of raising the pension age is simply to lower state pension spending.

[9] www.gov.gg/data

The fiscal implications of ageing are not defined purely by pension costs; typically spending on healthcare also increases with age, while revenues tend to decline. The typical profile of net contributor/beneficiary position changes with age as illustrated in Fig.7. It is simple to infer the broader impact of age profile on both revenue and spending. Government income (tax revenue) will tend to decline as a greater proportion of the population reaches retirement, and government spending will tend to increase – particularly when large age cohorts reach their 80's and 90's.

The States have taken some action to address some of these costs, including agreeing in principle to a phased increase in social security contributions over a ten-year period to address the sustainability of the funds supporting pensions and long-term care services (discussed in Box 4). This policy raises approximately £39m in 2023 prices and is incorporated into the States' baseline position.

Fig.7: Tax revenue/(expenditure) per capita by age group[10]



[10] *Data from States of Guernsey's Strategic Finance team*

Box 4: Actuarial position of the social security funds

Funding for two of the most significant public spending commitments, pensions and long-term care, is through hypothecated social security funds. Social security contribution rates have been historically set with reference to actuarial reviews, conducted every five years. The policy has been to maintain buffers in these funds and use them to mitigate the spending pressures of increased pensions and long-term care as the population ages.

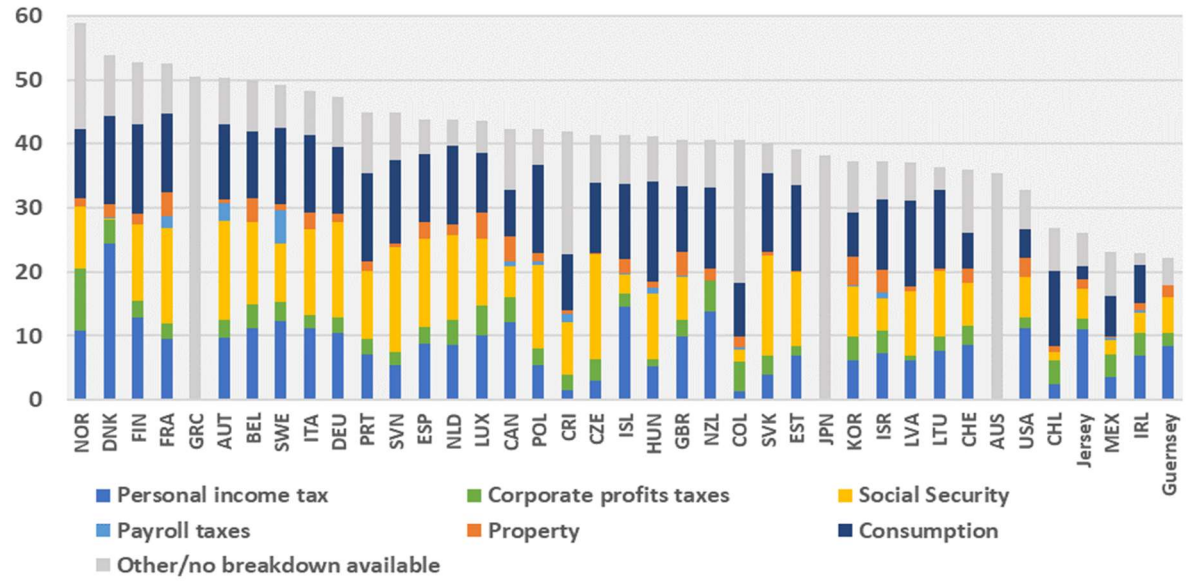
In 2021, the States agreed in principle to increase social security contributions over a period of 10 years. This would increase funding to both the Guernsey Insurance Fund (largely pensions) and the Long-term Care fund to a point where they might be considered sustainable over the projection period (beyond 2080). These are not insignificant rises; combined employee/employer contributions are equivalent to around 1% of GDP over ten years.

Accepting the actuarial valuations, these changes accommodate the projected increase in spending on pensions and long-term care over this time horizon. As these funds are ringfenced, the F&IP removes the operating position of this portion of the States' finances from its consideration of future funding requirements and the exposition of funding requirements in the F&IP. This is different to the overall position set out in the States' 2022 accounts. For similar reasons we discount this same area of the States' finances from the Panel's consideration of the overall net fiscal position.

3.4 Low(er) tax economy

Fig.8. shows Guernsey has a lower tax share than any OECD economy (and lower than Jersey's[11]). The overall tax share is ultimately a political decision and so does not have direct implications for fiscal balance (see Section 6.1). However, it is likely that a low tax share makes significant expenditure cuts harder as, presumably, a higher share of expenditure goes on essential government services than in a high tax economy.

Fig.8: Guernsey's revenues relative to its GDP vs other OECD jurisdictions[12]



3.5 Conclusion

An overview of Guernsey's economy gives three important insights into the appropriate fiscal stance.

- As a low growth economy, government debt is particularly hard to manage as it is not eroded by future growth.
- As a small, concentrated economy there is a need to guard against external economic shocks.
- An ageing population will continue to put pressure on Guernsey's finances.

For these reasons the Panel believes that it is sensible for Guernsey to maintain significant net positive financial assets.

[11] Please note that these comparisons need to be treated with a degree of caution. Reported shares and ratios can be skewed by differences in the method of calculation of the denominator, i.e. GDP. Although similar methods apply, Guernsey has a high share of profits in its reported GDP.

[12] *General government - General government revenue - OECD Data*

4. Fiscal Sustainability: the current position

Broadly speaking, public spending is funded by two main sources:

- Tax revenues funding traditional public services and non-contributory benefits[13]; and
- Social security contributions funding contributory benefits including pensions.

Until 2022, these were accounted separately, and importantly social security contributions are hypothecated to support specific services underpinned by specific reserves which are subject to actuarial review over a long horizon.

Fig.9. details how the current accounting position is distributed over these two areas of public spending. As described in Box 4, steps have already been taken to secure the long-term future of the social security funds, via a phased increase in contribution rates. Taking the actuarial projections of these funds as read, the Panel's primary focus, and the focus of the F&IP is on the unresolved issues within General Revenue.

Further discussion on the accounting practices and presentation, including where the Panel's own treatment may differ from that used in the accounts, is included in Appendix 1.

[13] In practice, much public spending is financed through public debt. However, public debt is ultimately serviced through future tax revenues (and to some extent, via inflation)

Fig.9 Public income & expenditure (nominal, £m)

	2022 £m
Tax revenues	494
Operating income	66
Other corporate income	38
Income transferred from Social Security Contributions	31
Total General Revenue operating revenues	**629**
General Revenue operating expenditure	**-617**
General Revenue operating surplus	**13**
General Revenue investment returns	-91
Depreciation	-29
Finance charges and other costs	-10
Project costs	-4
General revenue surplus/(deficit)	**-122**
	-
Social Security Contributions	209
Revenue transferred to General Revenue	-31
Social Security operating revenues	**177**
Social Security operating Expenditure	**-193**
Social Security operating surplus/(deficit)	**-16**
Social Security investment returns	3
Social Security surplus/(deficit) after investments	**-13**
Total operating revenues	807
Total operating expenditure	-810
Total operational surplus/(deficit)	-3
Total investment returns	-89
Total financing, depreciation and other costs	-43
Overall net surplus/(deficit)	**-135**
Actual Capital Spend	45

4.1 Defining fiscal sustainability

The standard definition of fiscal sustainability, and the one chosen by the Panel, is the position where government net assets are constant as a share of GDP. Effectively this means government financial assets plus government physical assets minus government debt should remain a stable share of GDP. This avoids a potentially explosive situation where assets are shrinking, or debt is growing faster than the economy over time[14]. It is important to note that this definition simply defines a sustainable path for the government finances where net assets are stable: it does not define what the appropriate level of net assets actually is.

Crucially, the net asset position relates to both financial and physical assets (e.g., schools and roads): an economy can be on an unsustainable path simply by running down its physical assets. We assess Guernsey's fiscal sustainability in terms of both financial and physical assets.

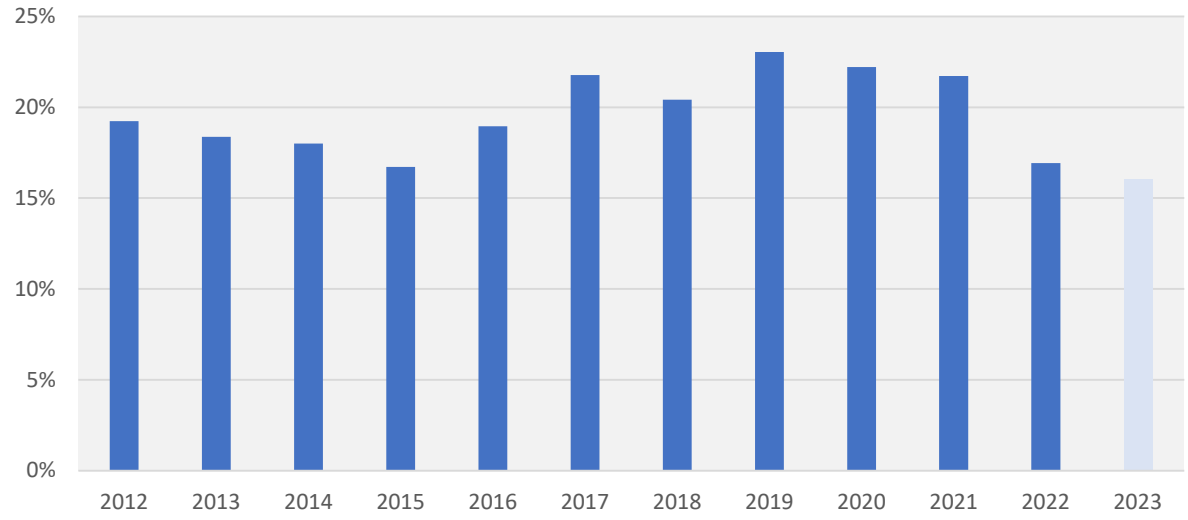
One important caveat is that we have not incorporated the effects of environmental change on Guernsey's fiscal sustainability as this is beyond the Panel's remit. However, research shows climate change[15] and biodiversity loss[16] can affect credit ratings, borrowing costs and default probabilities, but can also generate opportunities in green finance. Climate change can also affect returns on physical assets (such as coastal property and transport infrastructure), labour productivity (including in high value-added 'white collar' jobs) and natural capital (including in agriculture, eco-tourism, and fisheries)[17].

4.2 Financial sustainability

Fig.10. plots government reserves relative to GDP over the last 12 years[18]. Although financial reserves have increased in nominal value terms by around £120m from 2012 to 2022, this nominal increase has not kept pace with the rise in nominal GDP over the same period (particularly during the recent period of high inflation). The result is that financial reserves are anticipated to be 16% of GDP in 2023, compared to 19% of GDP in 2012.

[14] This is technically little different to the States' commitment to permanent balance in its Fiscal Framework
[15] Klusak, P., Agarwala, M., Burke, M., Kraemer, M., & Mohaddes, K. (2023). Rising temperatures, falling ratings: The effect of climate change on sovereign creditworthiness. Management Science. https://doi.org/10.1287/mnsc.2023.4869
[16] Agarwala, M., Burke, M., Klusak, P., Kraemer, M., & Volz, U. (2022). Nature loss and sovereign credit ratings. https://www.bennettinstitute.cam.ac.uk/wp-content/uploads/2022/06/NatureLossSovereignCreditRatings.pdf
[17] Agarwala, M., Coyle, D., Penasco, C., and D. Zenghelis (In Press). Measuring for the future, not the past. In Measuring and Accounting for Environmental Public Goods: A National Accounts Perspective. Mary Bohman, Eli Fenichel, and Nicholas Muller (Eds). NBER. https://www.nber.org/books-and-chapters/measuring-and-accounting-environmental-public-goods-national-accounts-perspective/measuring-future-not-past
[18] We exclude social security reserves from the analysis for reasons set out in Box 4

Fig.10. General Revenue Reserve balances as % of GDP [19]



Although reserves accumulated from 2016 to 2019 (largely because strong investment returns coincided with low capital spend) the general, gentle trend in reserves has been downward. This reflects the current fiscal arrangement whereby the in-year revenues generated by the States are not sufficient to cover both day-to-day operational requirements and to meet the average level of capital spend. As a result, in most years some portion of the investment returns has been used to finance expenditure rather than being re-invested into the fund.

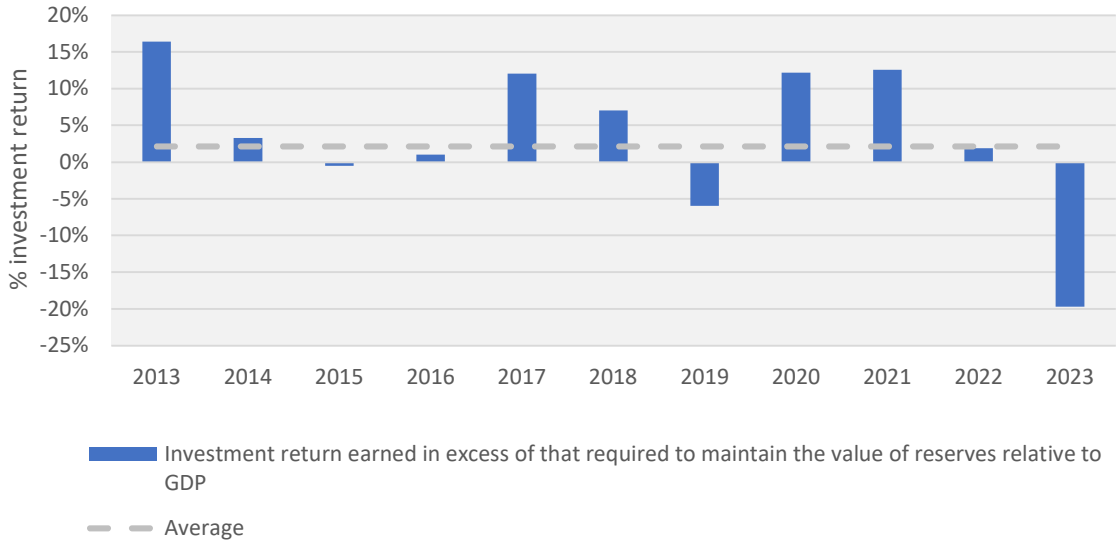
While this practice has so far generally allowed sufficient returns to be retained to increase the value of the reserves in nominal terms, it means that they tend to shrink in real terms and relative to GDP. So, in periods of higher inflation Guernsey allows a quite rapid decline in the real value of its reserves in a way that is unsustainable in the long term.

As Guernsey is a low growth economy, it is likely that the average investment returns on reserves is higher than its nominal GDP growth rate. Thus, it would be prudent to allow some portion of investment returns to be used to fund expenditure. To maintain consistency with the Panel's definition of fiscal sustainability, its view is that only the excess return over and above GDP growth should be used for that purpose.

Fig.11. shows the average return on Guernsey's reserves relative to GDP growth. On average, the return on reserves has been about 2% greater than GDP growth. If that level of excess return can be maintained in the future it would be sustainable for this average excess return to be used to fund expenditure each year, while still maintaining the value of reserves relative to GDP.

[19] *States of Guernsey Accounts, Strategic Finance. Incorporates Core Investment Reserve, General Revenue Reserve, Bond Reserve, the former Health Service Fund and Capital Reserves (now part of General Reserve)*

Fig.11: Investment Returns above that required to maintain value relative to GDP (actual and relative to GDP)[20]



4.3 Sustainable public assets

Fiscal sustainability implies a stable level of public capital stock[21]. This requires a sufficient level of ongoing public investment to maintain the capital stock. In practice, it is extremely difficult to measure the true value of the public capital stock, therefore we focus on the level of public investment on the presumption that there is a minimum rate of investment required to maintain the stock. Again, it is difficult to determine the correct level accurately in practice, so we look to international practice for a guide.

Fig.12. compares Guernsey's average level of public investment over the last five years with that of OECD economies. Over the period, Guernsey's level of public investment was extremely low in comparison. Such a level is unlikely to be consistent with a sustainable capital stock of public assets.

There may be a case that a lower level of investment is appropriate in Guernsey if, for example, public assets are a small share of the economy (as a result of Guernsey's public sector being a smaller share of the economy). Fig.13. plots public investment with overall tax share for the same group of countries as in Fig.12. There is evidence of such a link, though Guernsey's spending is still lower than would be implied by this relationship.

[20] *States of Guernsey's Strategic Finance team*
[21] It being considered that running down public infrastructure is not a sustainable path

Fig.12. Public investment as a share of GDP

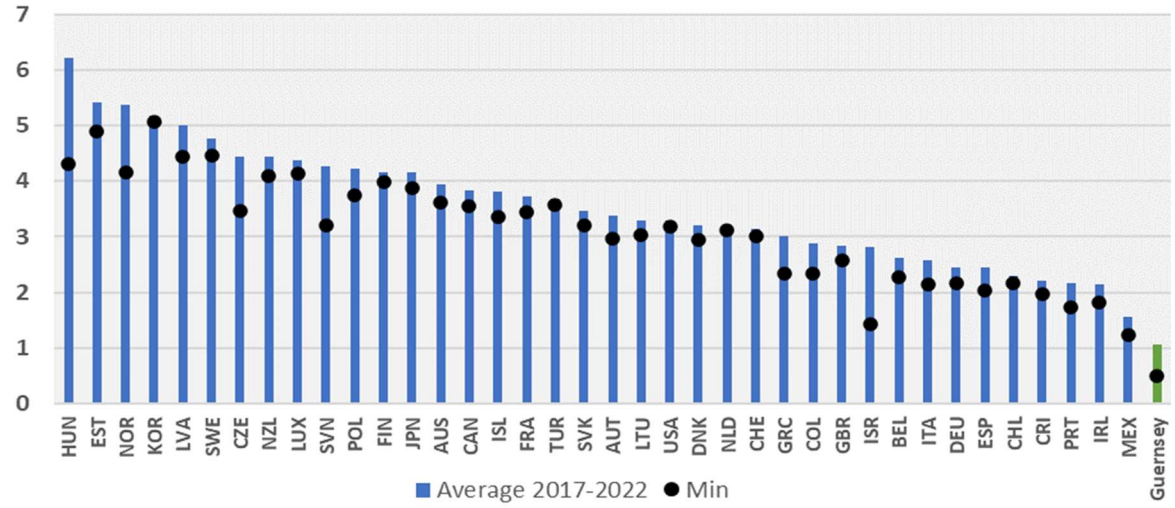
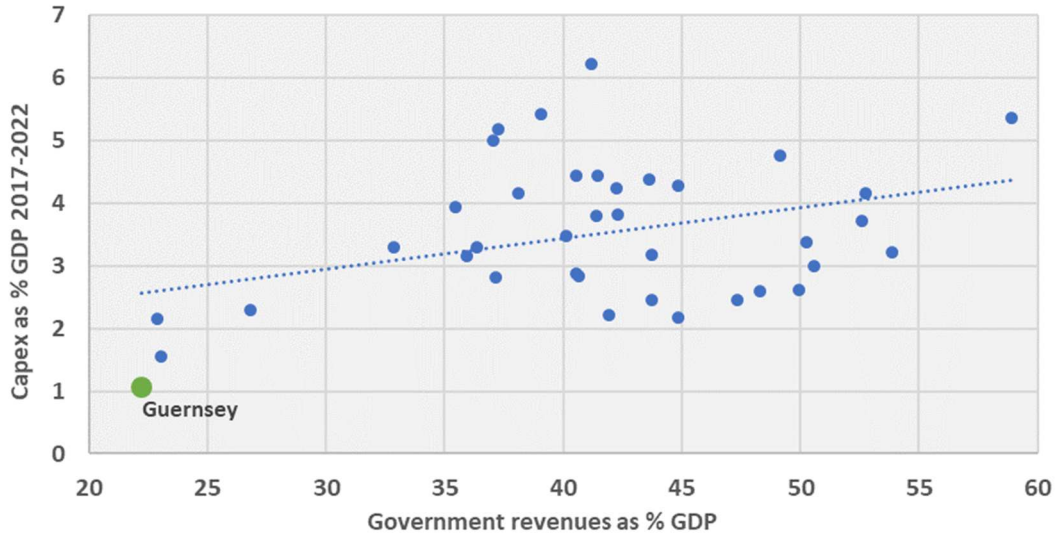


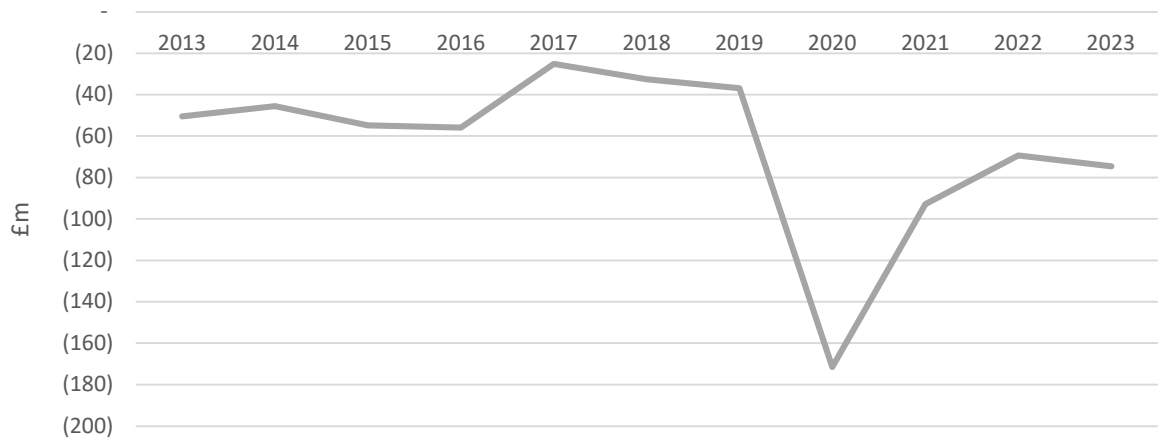
Fig.13. Public investment versus tax share



As Guernsey's closest comparator (Mexico) has a declining public capital stock, it is arguable that Guernsey should aim for a higher rate of public investment. The Panel's view is that a long-term average of 3% of GDP per annum, similar to the current rate in the UK, would be more consistent with a stable capital stock and so with fiscal sustainability.

Fig.14. calculates the deviation of Guernsey's fiscal stance from the sustainable path using the definitions described above (i.e. only excess returns on reserves over and above GDP growth are spent, with public investment averaging 3% p.a.). The 'zero line' at the top denotes the sustainable path. Deviations below that line indicate an unsustainable path. The chart shows that using the Panel's chosen definition of sustainability, States' finances have been on an increasingly unsustainable path over the past decade.

Fig.14: General Revenue deficit assuming 2% return on reserves available for investment and capex of 3% of GDP[22]



4.4 Conclusion

The analysis suggests that Guernsey has been on an unsustainable path due to the continuing deficits relative to the sustainable path, created by the insufficient revenues, and a declining real value of its fiscal reserves, together with a declining public asset stock due to low level of public capital investment.

[22] *States of Guernsey Accounts, Strategic Finance team*. Note that estimation of the deficit position includes significant impairments made in respect of the trading entities in 2020 and 2021. See accounts for more details.

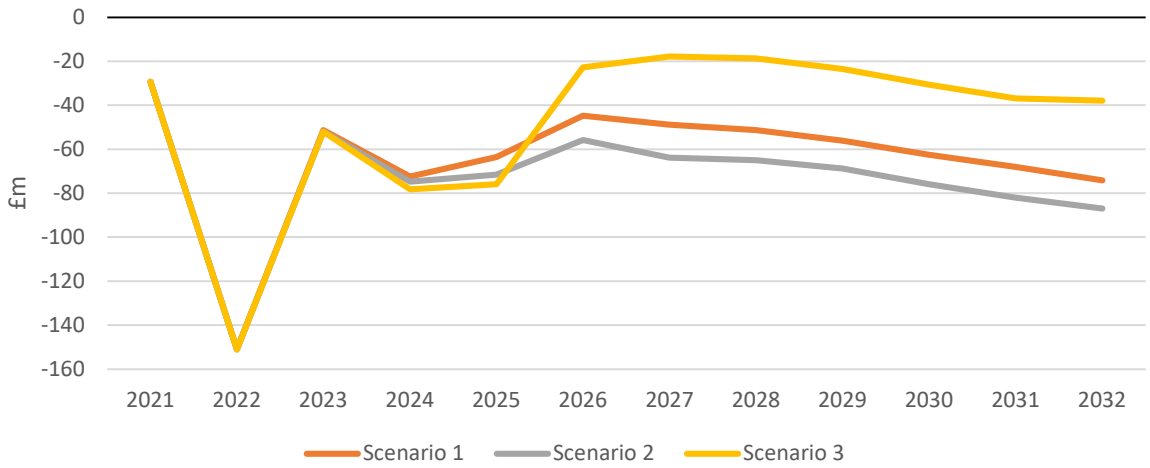
5. Proposed Funding & Investment Plan and fiscal sustainability

A core part of the mandate of this Panel is to provide an objective view of the options presented for resolving the States' financial challenges.

The F&IP presents three alternative fiscal approaches to achieve the stated objective of putting Guernsey's finances on 'a sustainable pathway back to long-term permanent balance' and dealing with immediate capital pressures.

The impact of these three scenarios on fiscal sustainability is presented in Fig.15. In all three cases the measures do not return Guernsey to a fully sustainable path, though in the case of Scenario 3 this is purely because the F&IP is based on the assumption of public capital spending of 2% of GDP rather than the 3% the Panel considers more in line with international evidence.

Fig.15. Sustainability path for scenarios modelled on long-term average capex of 3% of GDP



All scenarios include a set of common policy changes that improve revenues to the baseline. The common impact is an increase in revenues[23] of around £32m per annum by 2032, and assumed expenditure 'savings' of £13m per annum by 2032.

Scenario 1:

No new borrowing is proposed in this scenario. The capital spending programme is restricted to available reserves and then maintained at an average of approximately 2.0% of GDP through to 2032 (including an assumption of a 2% spend beyond 2025). This scenario results in a depletion of the available reserves by up to 6% of GDP by 2032[24].

[23] This figure is above the revenues raised by the planned increases in social insurance contributions
[24] This depletion would continue if capital spending was subsequently maintained at the 2% of GDP policy level

This scenario continues the existing practice of levels of investment that fail to maintain the level of capital stock, with capital investment at or slightly below the States' minimum level of capital investment (2% of GDP) and below the Panel's suggested level of 3% of GDP. It is difficult to label this approach - further decline in financial reserves and falling capital stock - as a sustainable path.

Scenario 2:

This scenario assumes borrowing of up to £200m to fund a greater level of capital expenditure. It also applies a different profile of capital expenditure averaging approximately 2.5% of GDP through to 2032 (including an assumption of a 2% spend beyond 2025).

This scenario also results in a depletion of the financial reserves by up to 7% of GDP by 2032[25]. We assume there to be some advantage to this increased capital stock investment but beyond that, it is difficult to reconcile this approach, again one of declining reserves, with fiscal sustainability as defined.

Scenario 3:

This scenario increases revenues by a further £42m through the introduction of a goods and services tax[26] and proposes borrowing of £350m. This scenario funds the proposed capital programme in its entirety, with capital spending of approximately 2.7% of GDP through to 2032 without the depletion of financial reserves.

Scenario 3 is the only scenario that achieves funding of the proposed capital programme and it is the only scenario that manages to maintain a stable level of financial reserves, meeting one of the Panel's measures of financial sustainability.

It proposes increasing the net revenue position by a figure in the same region as the Panel's estimate of the continued historic deficit. However, it does not quite achieve a level of revenues consistent with the Panel's assessment of the capital spending levels required to maintain a stable capital stock. For this reason, this scenario also (just) fails to meet the Panel's definition of sustainability.

[25] Again, this depletion would continue if capital spending was subsequently maintained at the 2% of GDP policy level
[26] This is the net new revenue figure. There are a series of concurrent changes to the social security system proposed which reduce the gross increase in revenues

6. Theory & design of taxes

All of the scenarios presented within the F&IP incorporate increases in taxation, and Scenario 3 in particular includes significant changes to Guernsey's tax base. Few areas of public policy are more contentious or more frequently confused and misrepresented than the design of the tax system. Governments attempting to use the tax system to balance multiple objectives – raising sufficient revenue, achieving the desired level of redistribution and minimising efficiency losses – are not helped by the fact that these objectives are often at odds with one another. Trade-offs are inevitable. Navigating them is the joint responsibility of democratically-elected governments and the society they serve. Moreover, as economies evolve – say through the rise and fall of key sectors, demographic change or through transition to Net Zero – the tax system will need to be revised accordingly.

Following best practice, independent economic advisers tend not to take a specific stance on:

1. How big the tax system should be, or
2. The amount of redistribution of income and wealth that should take place.

These are political considerations and can only be made on behalf of society with the full legitimacy that comes from a democratic mandate. As members of the Fiscal Policy Panel, it would be inappropriate for us to take a definitive stance on the tax measures presented. However, we can shed light on the characteristics of a well-designed tax system and help to assess whether specific policies are more or less likely to meet predetermined objectives; but only the government has the authority to set those objectives and design the associated policies.

In this section, the Panel provide insight on some of the core principles of tax system design, drawing heavily on the work of the late Professor Sir James Mirrlees and his team from the Mirrlees Review (2011). We hope that as policy makers, businesses and the public read these comments, they keep in mind the idea that tax system design:

1. should reflect the real and changing nature of the economy – that is, the population and businesses – in which it sits. As Guernsey's economy changes, so too must the tax system. This is a politically contentious process. The tyranny of the status quo is perhaps stronger in tax design than in any other area of public policy.
2. should be considered as a system in its entirety, rather than a series of independent and isolated taxes. This is important because of the many competing objectives that taxes attempt to address. No tax can simultaneously achieve all objectives, but a well-designed system can attempt to do so.
3. should understand and anticipate that people and businesses will respond to the incentives created by the system. Good data and modelling, and observable evidence from impacts in other jurisdictions can help shed light on the magnitude of potential responses.

Appendix 2 presents core principles for designing an effective tax system. Given the inclusion of both revenue raising taxes and potential behavioural taxes within the package presented, Box 5 provides an overview of the differences between these two approaches.

Box 5: Revenue raising vs behaviour change

Two common objectives of individual taxes within an overall system are (i) to raise revenue and (ii) to change behaviour. Revenue raising taxes are necessary to fund the operation of the state, including the provision of public services and maintenance of public infrastructure. To minimise distortions and efficiency losses, it is preferable for revenue-raising taxes to be levied on activities that cannot be avoided merely by changing behaviour; for example, because most people need to generate an income during their working years – and cannot avoid this necessity – an income tax is likely to raise significant revenues. However, on the margin, people can change their behaviour to pay less income tax, for instance by receiving dividends rather than salary or working fewer hours. This behavioural change introduces distortions and inefficiencies and best practice in tax design should seek to minimise the associated losses.

In contrast, governments also use taxes to change the behaviour of businesses and the public. This is appropriate in the presence of market failures and externalities, such as pollution. The objective is not generally to raise revenue (though they may do so), but rather to create financial incentives to change behaviour to reduce, for example, smoking, drinking and carbon emissions. The more effective they are in changing behaviour, the less revenue they will generate. One important example entails carbon taxes on petrol and diesel. Their objective is to reduce emissions by providing a financial incentive to drive less or shift to lower- and even zero-emission vehicles. While such taxes may initially generate important revenue, the better they are at decarbonising transport the less revenue they will generate over time.

6.1 Size of the tax burden

As far as fiscal sustainability and economic growth are concerned, there is no known optimal overall level of taxation. Indeed, the Mirrlees Review (2011, p15) confirms that: “there is no straightforward relationship between the total tax burden and economic performance”.

Tax burdens in rich economies can be high or low. For instance, in Denmark and France, tax revenues (excluding other sources of income) as a share of GDP were 46.9% and 45.1% respectively in 2021. In contrast, the United States has an overall tax burden of 26.6% of GDP and Ireland comes in at 21.1%. The UK sits somewhere in between at 33.5% (though this is expected to rise to about 37% by the end of the current parliament)[27]. The OECD

[27] *C, Emmerson and P, Johnson and B, Zaranko. (2023). This will be the biggest tax-raising parliament on record [Comment] Institute for Fiscal Studies. Available at: https://ifs.org.uk/articles/will-be-biggest-tax-raising-parliament-record (accessed: 29 September 2023).*

average was 34.1% in 2021, rising from 31.5% in 2010[28]. Guernsey comes in at around 19% of GDP if non-tax revenues (like operating charges and rents) are excluded, and 22% including these.

Compared against these economies, Guernsey's tax base is unusually small, and would typically be accompanied by a more limited provision of public services. For instance, the US and Ireland have a greater reliance on privately-provided healthcare, whereas the UK, France and Denmark have a higher tax take. However, while less generous in some areas than larger jurisdictions, Guernsey does appear to offer a larger extent of public services than its tax base would suggest.

6.2 Incidence of the tax burden

A common misconception in tax system design is that the government gets to decide where (that is, on whom) the burden of taxation falls. This is not generally the case, because producers and consumers adapt their activities according to the tax incentives they face. Ultimately, it is their responses to taxes that determine where the burden lies. Taxes levied on employers may be borne by employees (as rates of pay may adjust). Those levied on retail goods and services (to be collected by sellers) may induce price changes that result in the burden falling on the seller, the consumer or some combination. Ultimately, tax incidence is determined by relative price elasticities, which the government does not get to choose.

However, governments often seek to use the design of the tax system to redistribute income, and tax systems are often described in terms of how progressive they are (see Box 6). Typically, the design of the tax is important in how progressive (or regressive) it is and some taxes, generally income-based taxes, are better suited to meet redistributive objectives than others, such as excise duties and consumption taxes. However, almost all tax systems include a mix of taxes with a range of properties, and it is the action of these taxes in concert, that determine the distribution of taxes across the economy.

Box 6: Progressive tax systems

There is a strict, mathematical definition of what constitutes a progressive tax, set out clearly in the Mirrlees Review (2011). Progressivity requires that the average tax rate rises as the tax base rises. It is worth quoting directly from the Mirrlees Review: "This is the case when the marginal tax rate (the proportion of an additional pound of income tax) is higher than the average rate (the proportion of total income paid in tax)".

In practical terms, this can be achieved by building a tax-free allowance into the income tax system. For a simple example, imagine a 20% tax is levied on income above £10,000 and there is no tax on income below that level. Someone earning £20,000 will pay £2,000 in

[28] https://www.oecd.org/tax/tax-policy/about-global-revenue-statistics-database.pdf

tax[29]. Their marginal tax rate (20%) is higher than their average tax rate, which is 10%[30]. Similarly, someone earning £100,000 faces an average rate of 18% and a marginal rate of 20%.

In this simple example, the marginal rate 'pulls up' the average rate and is therefore progressive. It can be made more progressive by increasing the tax-free allowance, increasing the rate of tax, or adding higher marginal tax rates for higher levels of income.

Finally, when assessing the progressivity of a tax system, it is best practice to consider the system as a whole rather than focusing on individual taxes within the system. It is possible for a progressive tax system to include taxes that are individually regressive.

The relative weights of various sources of revenues in Guernsey has been fairly stable over the period for which comparable data is available. In Guernsey, personal income taxes generate 45% of tax revenue (39% of all revenue), compared to the OECD average of 24% of revenue.

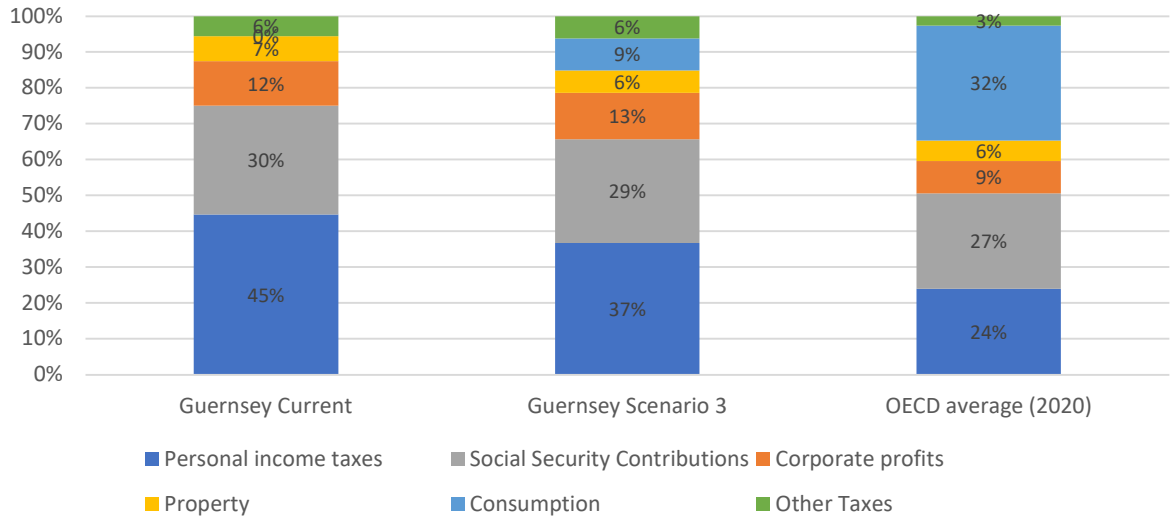
The sources of revenues can vary substantially, even among similar countries with similar overall tax burdens. Although Denmark and France have similar tax levels (46.9% and 45.1% of GDP respectively), the *sources* of these revenues vary substantially. In France, social security contributions are 14.8% of GDP, whereas in Denmark this is 0.1%. This wide difference is balanced by the fact that in Denmark collects 30.7% of GDP in taxes on income and profits, whereas France collects only 12%.

Guernsey's tax system has particularly high proportions of personal income tax and social security contributions and no contribution from a consumption tax, making its tax structure very unusual relative to international practice.

The tax package presented in Scenario 3 incorporates a reduction in personal income tax revenues and a redistribution of social security contributions as well as a GST, increased corporate revenues and taxes on motoring (these latter two being also included in Scenarios 1 and 2). This would increase Guernsey's revenues to around 24% of GDP (the limit placed on revenues by the States fiscal rules) and shift the distribution of revenues towards the OECD average (see Fig.8 and Fig.17).

[29] Their taxable income is £20,000 - £10,000 = £10,000. Their marginal tax rate is 20%. 20% of £10,000 = £2,000
[30] (£2,000/£20,000) x 100 = 10% of total income is paid in tax

Fig.17. Distribution of tax revenues (excluding non-tax revenues)



Inevitably the introduction of a new GST is a point of significant debate. The GST described in the Tax Review (2022) is designed as a value-added tax[31]. That is, it is a tax on the value-added at each stage of production. Section 6 of the Tax Review provides a strong overview of the rationale behind the GST. It is well-researched and consistent with the established theory and evidence in the economics of taxation.

The GST presented is intended to be broad-based with minimal exceptions or zero ratings. Motivations for zero-rating, reduced rating and exemptions often reflect a concern for redistribution or a desire to encourage the consumption of certain kinds of goods. However, the overwhelming consensus in economics is that redistribution is achieved far more efficiently using the income tax and benefits component of the tax system than the GST. This is discussed further in Appendix 3.

[31] There can be some confusion over terminology. We will refer to GST for consistency with the Tax Review, but readers should know that this is a value-added tax (VAT) rather than a sales or transaction tax. For the purposes of this report GST and VAT can be treated as synonymous. Value added taxes are generally much more efficient and undoubtedly preferable to sales or transaction taxes.

7. Conclusion

Guernsey's economic position – high income, low growth, highly concentrated within a single sector, and an ageing population – warrant a cautious fiscal stance. Fiscal sustainability entails ensuring that net government assets as a share of GDP do not fall over time. In the Panel's view, this would entail maintaining capital investment at 3% of GDP – in line with the OECD average. This is higher than Guernsey's current 2% target.

Overall, we find that Guernsey – which has historically had a strong fiscal position – has recently been travelling on an unsustainable fiscal path. Financial reserves are on a downward path, investment in the capital stock is very low by international standards and the substantial shortfall in revenues has recently grown.

While it will take many years for the full consequences of fiscal erosion to come through, it is generally easier to return to sustainability early, rather than waiting until second round effects begin to accelerate the process. These second round effects include slower growth (due to declining public infrastructure), worsening credit conditions (such as falling credit ratings) and a declining tax base (as citizens become increasingly aware of fiscal deterioration).

The F&IP (specifically Scenario 3) goes a considerable distance toward rectifying the situation and means any necessary further adjustments may be relatively small and can be implemented after due consideration of the F&IP's impact. However, the less aggressive fiscal action is now, the more costly it will become in the future.

Appendix 1: Accounting practice and presentation

Guernsey's government is in the middle of a transition to reporting its public finances in line with international standards. This transition has led to, amongst other things, a combined reporting of both sets of revenues, and expenditures, where historically they had been reported separately. Fig.9. details how the current accounting position is distributed over these two areas of public spending.

This consolidated picture includes finance costs and debt servicing etc. on the expenditure side and, on the income side, revenues from 'financing activities'; i.e. generated from the holding of significant financial reserves. The accounting policy is to register investment returns - the net change in the value of reserves in any year - as income. This can give rise to significant volatility in the calculation of the overall financial position from year to year.

Clearly, it is desirable to look through this volatility to gain an understanding of the underlying picture. For this reason, the projections in the F&IP use an estimate, based on historic experience, of the average rate of return to calculate a more stable figure for financing income for modelling purposes.

The 2022 accounts also bring an accounting charge for depreciation into the calculation of the overall deficit. The focus of the F&IP is on cash flows, the availability of funding to meet actual costs and the management of available reserves and borrowing requirements. For this purpose, the F&IP focuses on actual and anticipated capital spend rather than depreciation, noting that it relies on assumed average levels of spend beyond the horizon of the current capital programme in line with the States' policy (discussed in section 5).

Appendix 2: Principles of Tax System Design

The year 2023 marks the tercentenary of the birth of Adam Smith, often acknowledged as the father of modern western economic thought. In his famous *Wealth of Nations,* Smith described four canonical features of sound tax design:

1. The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities…
2. The tax which the individual is bound to pay ought to be certain and not arbitrary…
3. Every tax ought to be levied at that time, or in the manner, in which it is most likely to be convenient for the contributor to pay it…
4. Every tax ought to be so contrived as to take out of the pockets as little as possible, over and above that which it brings into the public treasury of the state.

These principles have largely withstood the test of time and are generally accepted today. However, a critical reader may conclude that they provide little insight into how governments might navigate the contentious trade-offs encountered when designing a modern tax system. For this, we turn to a more recent Scottish economist: late Professor Sir James Mirrlees, who was awarded the Nobel Prize in Economics in 1996 for his work on the theory of optimum tax design. This report, and indeed the design of tax systems around the world, draws heavily on his work (specifically, the Mirrlees Review 2011).

While largely endorsing Smith's canons of tax design, the Mirrlees Review added further principles drawing on both theory and observed evidence of taxes and their impacts on economies. They note (Mirrlees Review 2011. p22) that:

"For a given distributional outcome, what matters are:

- the negative effects of the tax system on welfare and economic efficiency – they should be minimized
- administration and compliance costs – all things equal, a system that costs less is preferable
- fairness other than in the distributional sense – for example, fairness of procedure, avoidance of discrimination, and fairness with respect to legitimate expectations
- transparency – a tax system that people can understand is preferable to one that taxes by 'stealth'".

Appendix 3: Goods and Services Taxes

The GST described in the Tax Review (2022) is designed as a value-added tax[32]. That is, it is a tax on the value-added at each stage of production. Section 6 of the Tax Review provides a strong overview of the rationale behind the GST. It is well-researched and consistent with the established theory and evidence in the economics of taxation.

It is worth quoting directly from the Mirrlees Review (2011, 167) that: "Since its introduction in France in 1954, [GST] has proved an exceptionally successful form of taxation and has been adopted by many countries worldwide, including all OECD countries other than the US. Bird (2010, 363) calls it 'unquestionably the most successful fiscal innovation of the last half-century… perhaps the most economically efficient way in which countries can raise significant tax revenues.'"

GST is levied on all sales, but producers are able to 'claim back' the GST on their purchases of inputs. For instance, a furniture-maker pays GST on their purchases of wood, and charges GST on their sales of furniture. The furniture-maker can then claim back the GST they paid on the wood; because a good's final sale price is the sum of value-added along the entire supply chain, the total GST is effectively charged on the value of the final good or service but is collected at each stage in the supply chain.

There are several advantages of this design:

- Although GST is collected along the supply chain, the ability of registered traders to claim back GST on their purchases of inputs means that the tax is effectively placed only on final consumption. This means production decisions are unaffected (not distorted) by GST, which maintains production efficiency.
- Because it is collected in small slices along the value chain, GST generates revenue even when some producers evade the tax (e.g. by failing to remit GST to the government). Only the GST due on the evader's slice of total value added would be lost, not the revenue on the entire product.
- Registered traders can only reclaim GST if they hold a valid GST invoice for their purchases of inputs, meaning they have an incentive to ensure their suppliers invoice it in full[33]. Without a valid GST invoice, the trader cannot reclaim GST they've paid and must absorb the cost themselves.

Even within a GST regime, there are often some goods and services which are 'zero-rated' or 'exempt'. Zero-rating means that GST is levied at a rate of 0%, but that registered traders whose outputs are zero-rated can still reclaim GST on their purchases of inputs. Exempt

[32] There can be some confusion over terminology. We will refer to GST for consistency with the Tax Review, but readers should know that this is a value-added tax (VAT) rather than a sales or transaction tax. For the purposes of this report GST and VAT can be treated as synonymous. Value added taxes are generally much more efficient and undoubtedly preferable to sales or transaction taxes

[33] Note that invoicing and actually remitting GST to the authorities are not synonymous, but any firm that invoices and does not remit GST would be engaging in outright fraud

goods and services face no GST, and their producers are not able to reclaim GST on their purchases of inputs. Some portion (and possibly all of) the GST faced along the supply chain of exempt goods and services may be passed on to the final consumer, meaning that sales prices of exempt goods are higher than they would be with zero-rating. It is also possible to apply a reduced rate of GST to specific categories of goods and services.

Motivations for zero-rating, reduced rating and exemptions often reflect a concern for redistribution or a desire to encourage the consumption of certain kinds of goods. However, the overwhelming consensus in economics is that redistribution is achieved far more efficiently using the income tax and benefits component of the tax system than the GST. That is, GST is an inefficient way of achieving redistribution and attempting to do so often entails increased costs of collection, monitoring, and compliance along with significantly reduced GST revenue.

Welfare-reducing distortions, production inefficiencies and compliance costs are minimised by a uniform GST. Deviations from a uniform GST, for instance through zero-rating, reduced-rating and exemptions increase distortions, reduce efficiency, increase compliance costs, increase the scope for evasion and reduce revenues.