

STATES OF JERSEY



DRAFT DRAINAGE (JERSEY) LAW 2005 (APPOINTED DAY) ACT 201- (P.38/2017): ADDENDUM TO REPORT

**Presented to the States on 27th June 2017
by the Minister for Infrastructure**

STATES GREFFE

**ADDENDUM TO THE REPORT WITHIN P.38/2017 –
DRAFT DRAINAGE (JERSEY) LAW 2005 (APPOINTED DAY) ACT 201-**

DISTRIBUTIONAL ANALYSIS OF THE LIQUID WASTE CHARGE

Summary

Background

This paper considers the distributional impact of the liquid waste charge as proposed by the Council of Ministers. Although businesses may receive the bills for the charge, Islanders (as customers, employees and shareholders) can still be impacted in a number of different ways, depending on how businesses respond. The paper looks at how the charging mechanism might ultimately impact on households and individuals at different points of the income distribution.

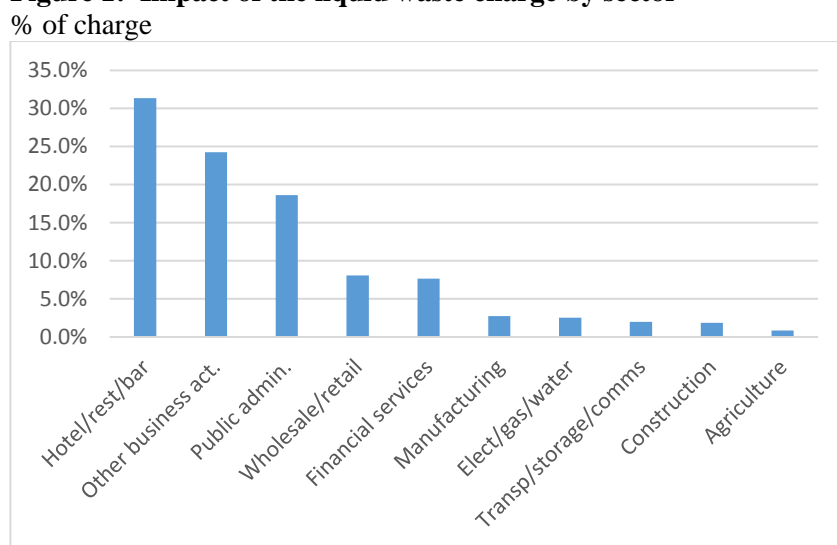
The liquid waste charge is expected to raise £3.85 million. The charge is for non-household premises and is made up of a standing charge that varies by type of customer and a volumetric charge of £2.27 per m³. The Department for Infrastructure (“DfI”) estimate that volume-based payments are expected to range from £50 to £50,000, with an average of around £1,980 per year per non-household. Small businesses are expected to pay significantly less, at around £100 to £400 per year.

DfI has also looked at some specific examples of how the charge might impact on certain businesses, and how it relates to the cost of the services or relative to employment. They estimate that –

- A medium-sized hotel with 143 rooms could face an annual charge of £12,149, which would equate to about 37p per room per night.
- A medium-sized restaurant with 150 covers could face an annual cost of £3,811, which would equate to 8p a meal.
- A medium-sized office with 50 staff could face an annual charge of 10p a day per employee.

Additional analysis by DfI has also looked at the distribution of the liquid waste charge by sector. **Figure 1** shows that highest proportion of the charge will be incurred by hotels/restaurants/bars (31%), followed by other business activities (24%), the public sector (19%), wholesale and retail (8%), financial services (8%), and the other 5 sectors making up the other 10%.

Figure 1: Impact of the liquid waste charge by sector



Source: Department for Infrastructure

Distributional impacts

Looking at the impact of particular measures across the household income distribution and assessing whether they are progressive or regressive is only indicative of the distributional impact. This is because –

- The distribution of household income is not the same as the distribution of wealth, and changes do not necessarily reflect changes in welfare.
- Households at different points in the income spectrum may change their behaviour in response to the impact on their income; for example, with some cutting back on essential services or expenditure.
- Households' circumstances may change over time, so they may only be in one part of the income distribution temporarily, and at different stages in their lifetime an individual's income may vary. This means that 2 households at the same income level at one point in time could be impacted by a fiscal change in significantly different ways over their lifetime.
- Consideration needs to be given to the income distribution and wider objectives regarding income inequality. There could be policy objectives to redistribute income between households in different circumstances or at different income levels.

It is also necessary to consider what would happen in the absence of the liquid waste charge (i.e. what is the counterfactual). That is, what the distributional impacts would be of alternative approaches. The choice is not really between the charge and doing nothing, where nobody incurs any costs. Most alternative approaches would have distributional impacts, and the real issue is what would be deemed the fairest approach. For example –

- If, in the absence of a liquid waste charge, the funding was raised through reductions in government spending elsewhere, then it would be necessary to

think about which income groups would be most affected. The distributional impact of spending changes are generally much harder to analyse, but the distributional impacts of an increase/reduction in health expenditure, for example, is generally thought to be progressive/regressive.

- If the alternative approach was that waste water services were underfunded and less effective, then sanitation standards could fall. The costs of this scenario could be concentrated on the less well-off if the costs were incurred more in built-up areas, or conversely the better-off could be more likely to be impacted if the costs were concentrated in rural areas.
- If the necessary funding is raised through general taxation then it could be raised in a progressive way if from income tax, or in a regressive way if raised through GST.
- In addition, if the alternative approach does not incentivise more efficient water use and the generation of less liquid waste, then the benefits from this change in behaviour would not accrue to households.

When looking at commercial charges of this nature, it is important to bear in mind what the actual incidence of the charge is. Although a business may receive the bill for the charge, the cost of the charge could actually fall on Islanders in other ways – that is why it is often said businesses do not pay taxes/charges, people do. Such charges should encourage businesses to manage their waste more efficiently, but are still likely to feed through into higher costs to some degree. Where such charges cannot be offset by efficiency improvements, they are likely to impact on Islanders through one of 3 ways –

- increased prices;
- reductions in other costs such as employment costs;
- reduced dividends for shareholders.

The degree to which such charges feed through in any of these ways will depend on the nature of the markets for the final product/service –

- Businesses exporting large shares of their output may not be able to pass the costs on through increased prices, as their competitors may not be subject to the same change in their costs.
- Shareholders may not be prepared to take lower returns, and the degree to which it reduces returns relative to other investments could impact (marginally) on the level of investment in the Island.
- Where the businesses affected are competing in local markets against local competitors and impacted to the same degree, the cost is more likely to be passed through into prices.
- Where demand for the product/service is more sensitive to price changes (for example where it is a discretionary purchase or substitutable with other alternatives), the cost may be less likely to feed through into prices.

In general, activities producing more waste per unit of output would see their prices rise more in absolute terms than other activities. The scale of the cost may also be relevant, as if it is a small proportion of revenue or the cost base, it may not be explicitly passed through.

The liquid waste charge is expected to raise £3.85 million and is small relative to the size of the economy/expenditure on employment or relative to the size of the sectors that are most likely to be impacted. Under these circumstances, there is the possibility that it will not explicitly be passed on in prices. However, it would be unrealistic to assume that there will be no impact, and that at least part of the charge will not be passed on to consumers of the products produced by the businesses most affected.

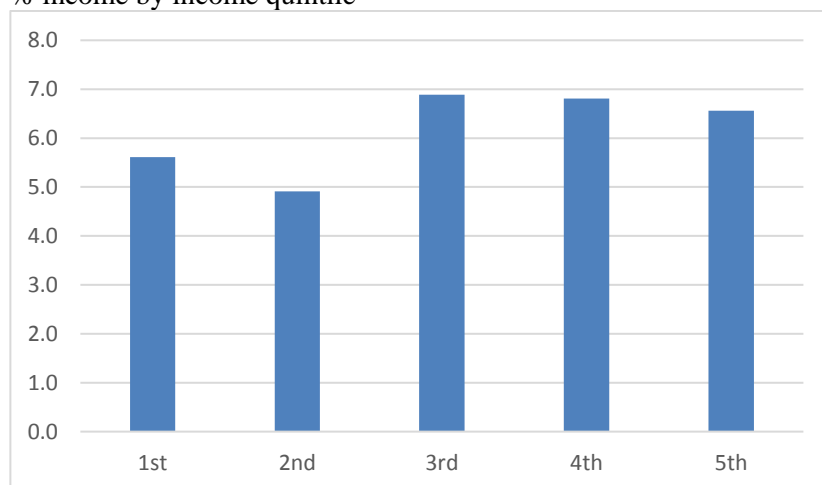
Information from the Business Tendency Survey in March 2016, which asked firms about their likely response to an increase in the minimum wage, shows that an increase in prices was the most often quoted response and mentioned by over 50% of firms. There is little reason – either from theory or evidence – to rule out that the introduction of the liquid waste charge will at least in part feed through into higher prices in the sectors most affected.

The paper then looks at what the distributional impact would be if prices rise for the goods/services in the sectors most affected.

Hotels/restaurants/bars

Expenditure on hotels/restaurants/bars in the top 3 income quintiles is actually higher as a proportion of income than in the bottom two. This would suggest that the distributional impact of higher prices in these sectors is different to that of a general increase in prices. That is, it would impact on households in a way that was more progressive than the case under a general rise in prices. In addition, tourists may also face higher prices.

Figure 2: Spending on hotels/restaurants/bars
% income by income quintile*



*Jersey households are divided into 5 equal-sized groups ('quintiles') according to their income level – the first quintile being the 20% of households with the lowest incomes, the second quintile being the next 20% of households and so on, up to the fifth, or top, quintile being the 20% of households with the highest incomes.

Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

Other business activities

The other business activities sector is a sector that covers a wide range of predominantly private sector service industries. It is therefore hard to determine which businesses may see higher prices, and how it may impact on households across the income distribution. Likewise, it is difficult to assess whether the impact of higher prices would feed through in the same way as a general rise in prices, or would show different distributional characteristics.

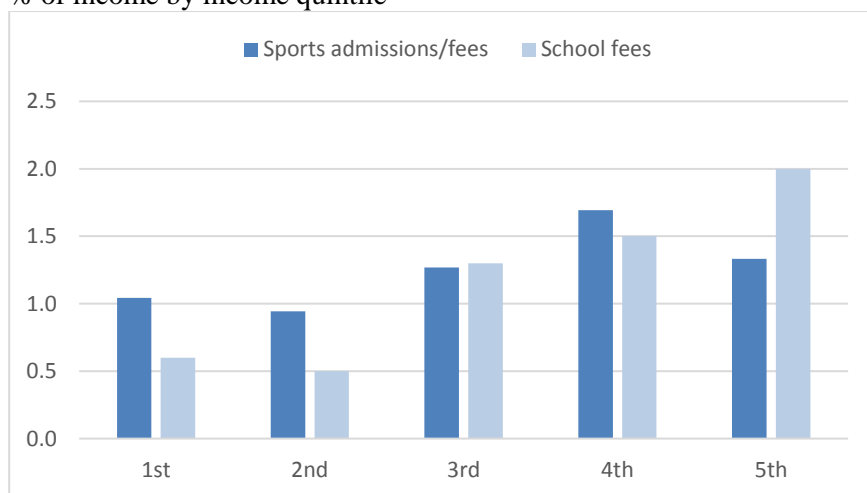
Public sector

A significant proportion of the liquid waste charge will be raised from the public sector and [P.38/2017](#) proposes that the charge in the public sector will be paid for from the overall income collected from the liquid waste charge (with a limited number of exceptions). This suggests that the distributional impact of this element of the charge will be the same as that of the charge as whole. Examples of the areas where the businesses will face the charge, but will not be compensated for it, are fee-paying schools and sports facilities.

If the liquid waste charge feeds into higher school fees, then this is likely to impact in a progressive way, given the distribution of spending on school fees across the quintiles, as shown below. Spending on sports admissions/fees has a similar distribution across the income spectrum (although spending by the fifth quintile drops as a share of income) and is a further example of where higher prices may not impact in a regressive way.

Figure 3: Expenditure on schools fees and sports admissions/fees across the income distribution

% of income by income quintile



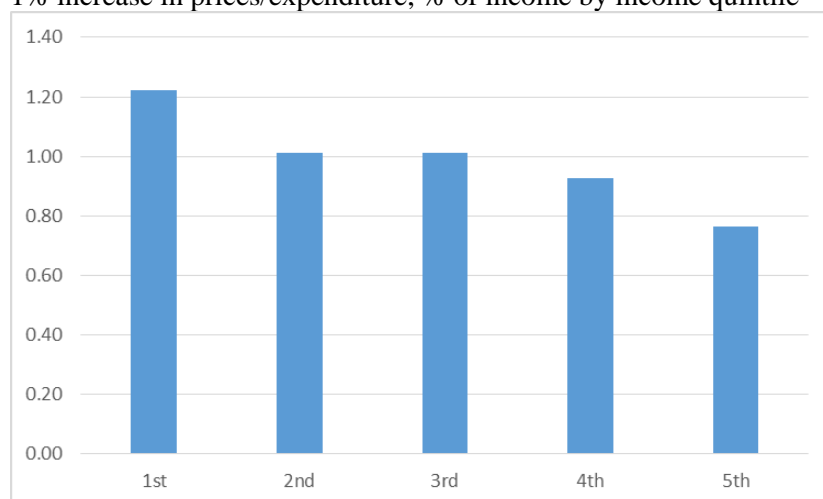
Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

If any element of the liquid waste charge paid by the public sector has to be funded centrally, it will have to be met by reductions/savings in expenditure in other services and/or increases in funding from general revenues. Depending on how the States were to meet these costs, the distributional impact could vary as discussed above.

Wholesale/retail

A significant proportion of the liquid waste charge will be raised from the wholesale and retail sector, although the scale of the charge in this sector relative to employment, and GVA is less than a number of the other sectors. If some of the charge is passed on to consumers and is equivalent to a general increase in retail prices, then the chart below shows that this will impact in a regressive way.

Figure 4: Distributional impact of a general increase in prices/expenditure
1% increase in prices/expenditure, % of income by income quintile



Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

Financial services

Although the potential impact on financial services is a significant proportion of the expected revenue from the charge, when it is considered relative to the size of the sector in terms of GVA and employment, it falls quite significantly relative to some of the other sectors. With competition in financial services export markets from other jurisdictions, there may be limited scope for any increase in prices. However, certain aspects of financial services provision may be more focused on the local market, and there is the possibility that there may be more scope to pass some of the charge through to consumers in these markets. If prices for these services do rise as a result of the liquid waste charge, then the impact may be closer to being proportional than regressive or progressive (*see Figure 20*).

Energy/gas/water and manufacturing

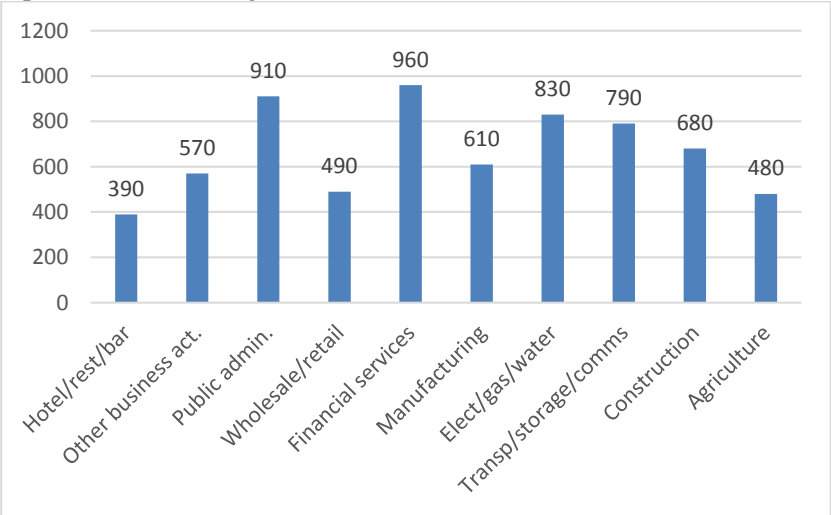
The energy/gas/water and manufacturing sectors are 2 sectors that will bear a relatively low proportion of the charge, but it will be higher as a share of GVA or per employee relative to other sectors. Spending on electricity/gas/other fuels/water falls as a proportion of income as income rises (*see Figure 21*), and this would suggest that any increase in prices in these sectors would feed through in a regressive way. The manufacturing sector is a mixture of businesses, and it is therefore difficult to identify where any price changes might show up in household expenditure.

As already outlined, it cannot be ruled out that some proportion of the charge will not feed through into reduced employment costs and/or lower returns for shareholders. The potential distributional consequences of these 2 impacts are considered below.

Distributional impact of reduced employment costs

Firms could reduce employment costs by cutting hours and/or employment and/or reducing the rate of future pay increases. It is difficult to say how each firm might respond, and as a result which pay-groups might be affected. However, as the chart below shows, some of the sectors where the charge has the largest estimated impact are the ones that have the lowest average earnings in the economy. This suggests that if employers in the sectors most impacted by the liquid waste charge respond by reducing employment costs, the impact could feed through in a more regressive way.

Figure 5: Average earnings by sector
£ per week, excluding bonuses, June 2016



Source: States of Jersey Statistics Unit

Reduced returns for shareholders

Shareholders in the businesses impacted may have to accept lower dividends, and therefore returns, on their investment. Although the change may be minor (given the revenue raised by the charge and that only a proportion of it may impact on shareholders), there is a risk that rather than being borne by the shareholder (who may have higher incomes), the charge impacts on Islanders in other ways.

For example, shareholders could try and restore their returns to the previous level and do so by trying to reduce costs in the business, either by reducing employment costs or through capital investments that can reduce costs. In the extreme, they could even withdraw their funding and invest it elsewhere in the economy or outside the economy. The results could again be that those employed in the sectors affected bear the brunt of the charge and, if so, the impact will be similar to that in the example above where employment costs are reduced, i.e. likely to be regressive.

Conclusions

When considering the distributional impact of the liquid waste charge, it is important to look at what would happen if the charge was not introduced and what the impacts of alternative approaches would be. The choice is not really between the charge and doing nothing. Most alternative approaches would have distributional impacts, and the real issue is what is deemed the fairest approach overall.

The precise distributional impact of the liquid waste charge will depend on the decisions taken by the businesses that receive the bills for the charge, and this could be complex and difficult to anticipate in advance. Some businesses may be able to offset some of the costs by being more efficient in their use of water; although it is unlikely that all businesses will be able to totally offset the costs of the charge. Under these circumstances, it is likely that the distributional impact of the charge will be significantly different to that of a general increase in prices or a more typical user pays charge levied directly on households. As there may be progressive and regressive elements to the impacts of the charge, the overall impacts may be closer to proportional.

If the charge is passed through to prices in the sectors most affected, then this could have both progressive and regressive impacts, given the nature of consumer expenditure on the products/services most likely to be impacted. Hotels/restaurants/bars is the sector expected to bear the largest share of the cost, and higher prices for these services would impact on households in a way that was more progressive than the case under a general rise in prices.

Similarly, if the charge results in firms reducing employment costs, then the impacts could be regressive given the level of average earnings in the sectors most likely to be affected. If returns to shareholders decline as a result of the liquid waste charge, then the impacts could be progressive if shareholders absorb the cost, although if they tried to re-establish the same level of returns, then the impacts could turn out to be more regressive (especially if they do so by reducing employment costs).

The distributional impacts of the liquid waste charge are only one aspect for consideration. They must be balanced alongside other objectives with regard to funding public services, making users pay for the services they use, and incentivising more efficient use of resources.

Distributional analysis of liquid waste charges

Introduction

This paper considers the distributional impact of the liquid waste charge as proposed by the Council of Ministers. It looks at how the charging mechanism might impact on households and individuals at different points of the income distribution.

Background

The liquid waste charge

The States agreed in September 2016 as part of the [Medium Term Financial Plan \(“MTFP”\) Addition for 2017 – 2019](#) ‘in principle approval of the new user pays proposals, commercial liquid and solid waste charges.’ It was also agreed that charges in relation to household liquid and household solid waste would not be developed.

In respect of liquid waste, the Department for Infrastructure (“DfI”) proposes to extend charging to encompass all liquid waste services provided to non-householders, under the [Drainage \(Jersey\) Law 2005](#), in March 2018.

In the MTFP, the DfI waste services budget was cut by £11.35 million as part of the overall package agreed by the States, so that funding could be directed to priority areas such as Health and Education. DfI was then expected to raise the same amount of funding (£11.35 million) through non-householder user pays waste charges to maintain funding and service levels.

The £11.35 million was estimated to be the proportion of service costs that were generated by waste from the non-householder sector. Of this sum, £3.85 million was the proportion for non-householder liquid waste services and the amount expected to be raised by liquid waste charges. **Figure 6** below sets out the proposed charging structure in terms of the standing and volumetric charges, and a breakdown of how the £3.85 million will be raised.

Figure 6: Proposed charging structure of liquid waste charge for 2018

Meter Size	No. of Customers	Annual Standing Charge		Volumetric Charge (£m ³)		Income
		Full	Partial	Full	Partial	
General Sewage Charges - Up to 25mm	2,700	£25.00	£16.99	£2.27	£1.54	£1.8m
General Sewage Charges - Above 25mm	650	£80.42	£54.65	£2.27	£1.54	£1.4m
Trade Effluent and Miscellaneous charges	60	£288.62		£2.27		£0.65m
					Total	£3.85m

Source: Department for Infrastructure

Charges by business sector

DfI estimate that volume-based payments are expected to range from £50 to £50,000, with an average of around £1,980 per year per non-household. Small businesses are expected to pay significantly less at around £100 to £400 per year.

Working in collaboration with Jersey Water, DfI has estimated the likely annual costs for different types of non-householders across a range of sectors. **Figure 7** below shows their estimates of the scale of charges for different types of non-households. These are based on actual examples of Jersey Water non-householder customers and information about their meter sizes and recent estimates of volumes of water supplied.

Figure 7: Examples of annual liquid waste and water service charges by sector

Economic Sector	Jersey Water Charge including standing charge £2.61 Per m3	Liquid Waste Charge including standing charge £2.27 Per m3	Example of a typical establishment
Agriculture	£1,990	£1,660	Dairy Farm
Community	£421	£356	Parish Hall
Guest House	£1,736	£1,442	Medium size Guest House
Hair Salon	£973	£812	Hairdresser
Hotel	£14,679	£12,149	Medium size Hotel
Hotel	£48,386	£40,039	Large size Hotel
Laundry	£1,776	£1,513	Launderette
Office	£1,429	£1,237	Medium size Office
Public House	£3,744	£3,150	Country Public House
Restaurant	£4,601	£3,811	Medium size Restaurant
Restaurant	£907	£757	Small Café
Restaurant	£1,145	£954	Small Coffee Shop
Retail Shop	£488	£411	Convenience Store
Retail Shop	£8,042	£6,692	Supermarket

Source: Department for Infrastructure

DfI has also looked at examples of the possible cost impacts from the new charges on the end-users and assuming that the costs are passed on in full. The results are summarised in **Figure 8** below. The assumptions used by DfI are for –

- Hotel: 63% occupancy, open 365 days per year.
- Restaurants: 50% occupancy, open 312 days per year, assumes on average the restaurant will have 2 sitting per cover per day.
- Office: used for 253 days per year.

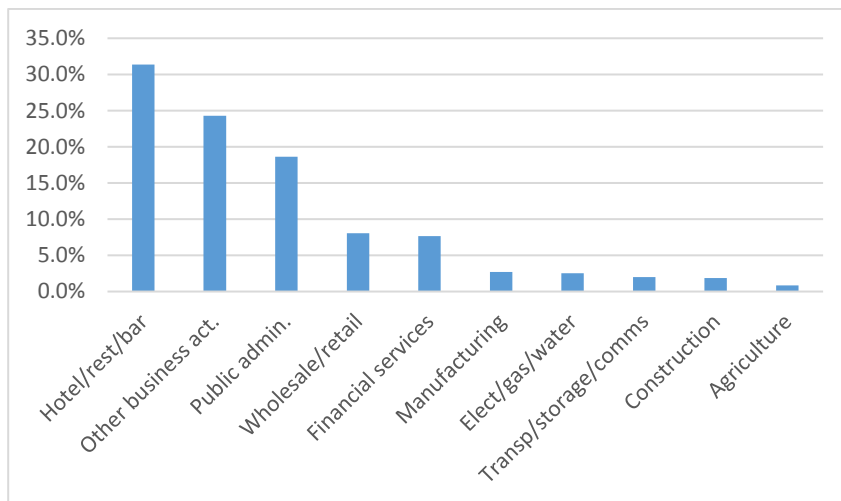
Figure 8: Examples of impacts on end-users

		Liquid Waste Charge	
Business	Business Size	Annual Charge	Cost per... Room/Meal/Employee
Medium Sized Hotel	143 Rooms	£12,149	37p / room / night
Medium Sized Restaurant	150 covers	£3,811	8p / meal
Medium Sized Office	50 staff	£1,237	10p / day / employee

Source: Department for Infrastructure

Additional analysis by DfI has looked at the distribution of the liquid waste charge by sector. **Figure 9** shows that highest proportion of the charge will be incurred by hotels/restaurants/bars (31%), followed by other business activities (24%), the public sector (19%), wholesale and retail (8%) and financial services (8%).

Figure 9: Impact of the liquid waste charge by sector
% of total



Source: Department for Infrastructure

Distributional issues

When considering the distributional impact of different taxes and charges at the individual level, it is necessary to look at the impacts on different households at different points in the income spectrum. The distribution of household income is calculated in the Jersey income distribution survey. It divides households in Jersey into 5 equal-sized groups ('quintiles') according to their income level – the first quintile being the 20% of households with the lowest incomes, the second quintile being the next 20% of households and so on, up to the fifth, or top, quintile being the 20% of households with the highest incomes.

Household income will generally be affected by household size – single adult households will generally have lower incomes than 2 or more adult households. Furthermore, housing costs will have differing impacts according to the size of the household. To remove the variation caused by differences in household size and make-up, a process of equivalisation is undertaken by the Statistics Unit in the Income Distribution Survey to standardise every household to the same household size and type. The standard used is that of an adult couple with no children. This process of equivalisation allows fairer comparisons to be made across different-sized households.

The composition of household types across the income distribution varies. Pensioner households are more concentrated in the lower quintiles, while couples with dependent children, and working-age couples, are more concentrated in the higher income quintiles. Single-parent households are more prevalent in the lower income groups, while working adults are fairly evenly split across the lower 4 quintiles.

To get an understanding of how various fiscal measures impact on different parts of the income distribution, it is possible to look at whether measures are –

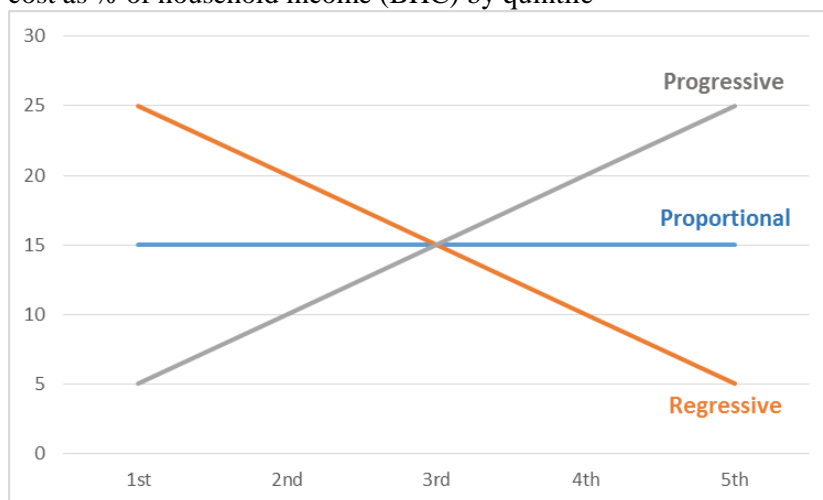
Regressive: The average cost to the household falls as a share of income as income rises. This means that those with the lowest incomes pay more, relative to their incomes (even though they may pay less in monetary terms).

Proportional: The average cost to the household is constant as a share of income as income rises. This could still mean that the lowest incomes pay less in cash terms, but it is the same proportion of their income.

Progressive: The average cost to the household increases as a share of income as income rises. This will mean that the better-off pay more in monetary terms and as a share of income.

This is summarised in the following chart.

Figure 10: Different distributional impacts
cost as % of household income (BHC) by quintile



Looking at the impact of particular measures across the household income distribution and assessing whether they are progressive or regressive is only indicative of the distributional impact. The distribution of household income is not the same as the distribution of wealth, and changes in income are not necessarily reflective of overall changes in a household's welfare which could be impacted by monetary and non-monetary factors.

Similarly, it does not factor in how people at different points in the income spectrum change their behaviour in response to the impact on their income. For example, where a measure appears progressive in terms of its impact relative to income, it could have more regressive tendencies if the less well-off respond in such a way that they are ultimately made worse-off by consuming less of essential services or cutting back on other important expenditure.

Such analysis also does not take into account that households' circumstances may change over time. Those in one part of the income distribution may only be there temporarily, and at different stages in their lifetime an individual's income may vary. For example, as people get older and more experienced, their income may rise, meaning that those in the lower part of the income distribution also spend time in higher parts of the distribution during their lifetime.

Conversely, there may be households which remain in one part of the distribution for their whole lifetime – for example some less well-off households may never leave the bottom part of the income distribution. This means that 2 households at the same income level at one point in time could be impacted by a fiscal change in significantly different ways over their lifetime.

There could be reasons for trying to address income inequality through policy changes, either by redistributing from households in certain circumstances or at certain income levels to other households in different circumstances. In all societies there tends to be some income inequality – that is incomes are generally distributed unevenly across households, and some households have a higher income than others.

Also, in the case of liquid waste charges, it is necessary to think about what the counterfactual might be. That is what would the impacts of alternative approaches. The choice is not really between the impacts of the charge on different income groups and doing nothing where nobody incurs any costs. Most alternative approaches would have distributional impacts, and the real issue is what would be deemed the fairest approach. For example:

- If, in the absence of a liquid waste charge, the funding was raised through reductions in government spending elsewhere, then it would be necessary to think about which income groups would be most affected by the type of expenditure reduced (assuming that it impacted on services). [P.38/2017](#) from the Council of Ministers sets out that the waste charges are being introduced to allow funding to be redistributed to priority areas as part of the overall package of measures agreed by the States.

The distributional impact of spending changes are generally much harder to analyse. Some of the priority areas in the MTFP are spending on Health and Education. Assessing the distributional impacts of an increase in Health expenditure is complex, but is generally thought to be progressive. How Education spending impacts different households at different points in the income distribution is less clear. However, the type of increase in Education expenditure in the MTFP suggests that the increase in Education spending will be broadly progressive in Jersey.

- If the alternative approach was that waste water services were underfunded and less effective, then sanitation standards could fall. The costs of this scenario could be concentrated on the less well-off if the costs are incurred more in built-up areas, or conversely the better-off could be impacted if the costs are concentrated in rural areas.
- If the necessary funding is raised through general taxation, then it could be raised in a progressive way if from income tax or a regressive way if raised through GST.
- In addition, if the alternative approach did not incentivise more efficient water use and the generation of less liquid waste, those who would benefit most from this change in behaviour would miss out on these benefits.

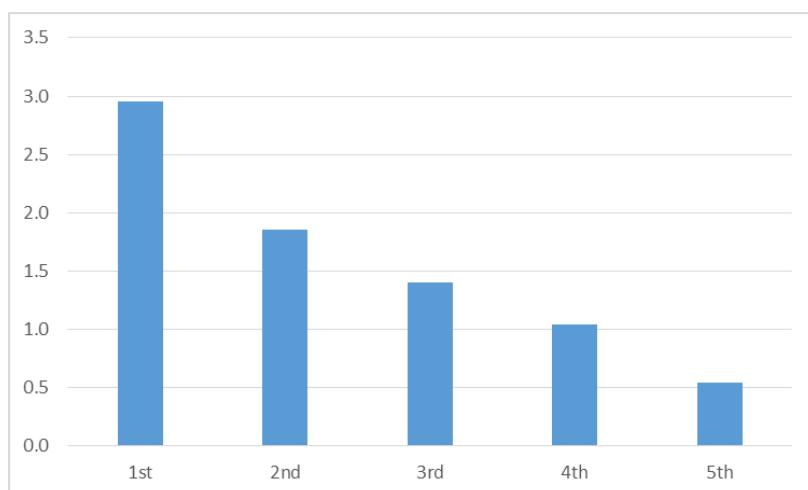
Assessing the distributional impact of the liquid waste charge

Liquid waste charges are a type of ‘user pays’ charge. The main economic rationale for user pays charges falls into making more efficient use of government resources, and in particular that the consumers of the service have regard to the cost. Where a public service is provided for free, there is a risk that it will encourage overconsumption, imposing unnecessary costs on society and making government less efficient.

However, taking this general economic concept and applying it in practice is difficult, and some government services lend themselves more to the approach than others. Pricing is critical, as getting prices too low or too high can encourage over- or under-consumption, neither of which is efficient and without costs to society.

An often cited concern with user pays charges is that they are regressive in nature, i.e. impact on the less well-off disproportionately. This comes from the fact that if there is a fixed charge (or even a per unit charge where consumption/use does not vary with income), the cost is likely to be a higher proportion of lower incomes. The chart below shows that situation where a £500 annual charge is applied that each household pays, and therefore the cost of this charge falls as a proportion of income as it rises.

Figure 11: Distributional impact of user pays charge
£500 annual charge as % of income by income quintile



Source: Statistics Unit Income Distribution Survey/Economics Unit calculations

Such a high-level analysis does not always apply in practice or to particular user pays charges. In the case of the liquid waste charge, the picture is more complicated because households do not face the charge directly, as it is levied on non-households.

When looking at commercial charges of this nature, it is important to bear in mind what the actual incidence of the charge is – businesses do not pay taxes/charges, people do. Such charges should encourage businesses to manage their waste more efficiently, but are still likely to feed through into higher costs to some degree. Where such charges that fall on commercial enterprises cannot be offset by efficiency improvements, they are likely to impact on Islanders through one of 3 ways –

- increased prices
- reductions in other costs such as employment costs
- reduced dividends for shareholders.

The degree to which such charges feed through in any of these ways will depend on the nature of the markets for the final product/service –

- Businesses exporting large shares of their output may not be able to pass the costs on through increased prices, as their competitors may not be subject to the same change in their costs.
- Shareholders may not be prepared to take lower returns, and the degree to which it reduces returns relative to other investments could impact (marginally) on the level of investment in the Island.

- Where the businesses affected are competing in local markets against local competitors and impacted to the same degree, the cost is more likely to be passed straight through into prices. This is because there would be little impact on their competitive position and would mean that Islanders (and to some degree visitors) are likely to bear the costs.
- Where demand for the product/service is more sensitive to price changes (for example where it is a discretionary purchase or substitutable with other alternatives), the cost may be less likely to feed through into prices and be more likely to impact on returns/shareholders.

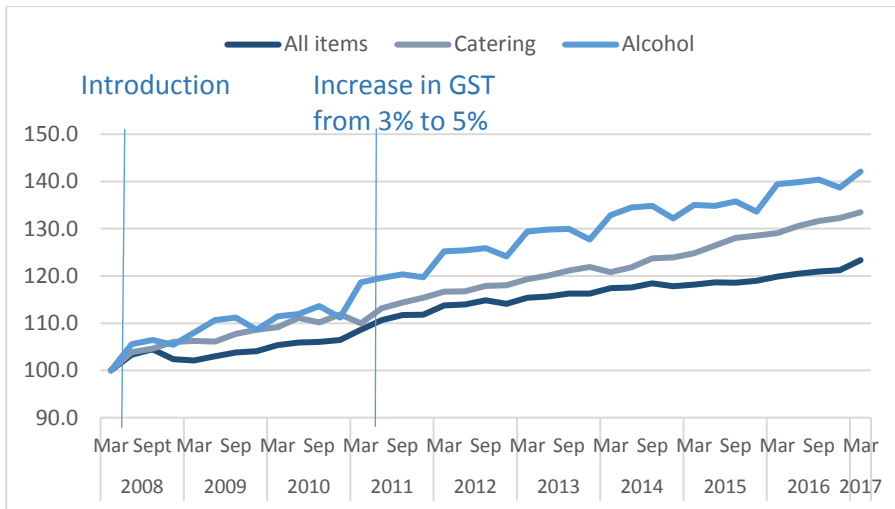
In general, activities producing more waste per unit of output would see their prices rise more in absolute terms than other activities. The scale of the cost may also be relevant, as if it is a small proportion of revenue or the cost base, it may not be explicitly passed through.

As the liquid waste charge is expected to raise £3.85 million, it is relatively small given the size of the economy (0.1% of £4 billion GVA) – or the size of total wages/salary costs across the economy (0.2% of more than £2 billion of compensation of employees). Even when it is considered relative to the size of the sectors that are most likely to be impacted, the charge does not appear to be significant. Under these circumstances, there is the possibility that it will not explicitly be passed on in prices. However, it would be unrealistic to assume that there is no impact on prices and that none of the charge is passed on to the customers of the businesses most affected.

The following chart shows the trends in retail prices since 2008. Over this period, there have been a number of key trends that have impacted retail prices across the board, and in some of the sectors most likely to be affected by the liquid waste charge. The Goods and Services Tax (“GST”) was introduced in May 2008 at 3% and was increased to 5% in June 2011. More recently, when the depreciation of Sterling has led to higher input prices and upward pressure on RPI. In both cases, prices did rise more sharply in response, and there seems to be little evidence that they were absorbed by businesses. However, these circumstances are quite different from those of the liquid waste charge for 2 key reasons that would mean they are more likely to be passed into consumer prices –

- Goods that were imported into the Island were all similarly affected by GST (as it applies to imports as well as domestic goods), and likewise those goods imported from UK producers will also have been impacted in a similar way by trends in exchange rates/input costs.
- They were more significant changes and had the potential to impact on a broader range of sectors and prices.

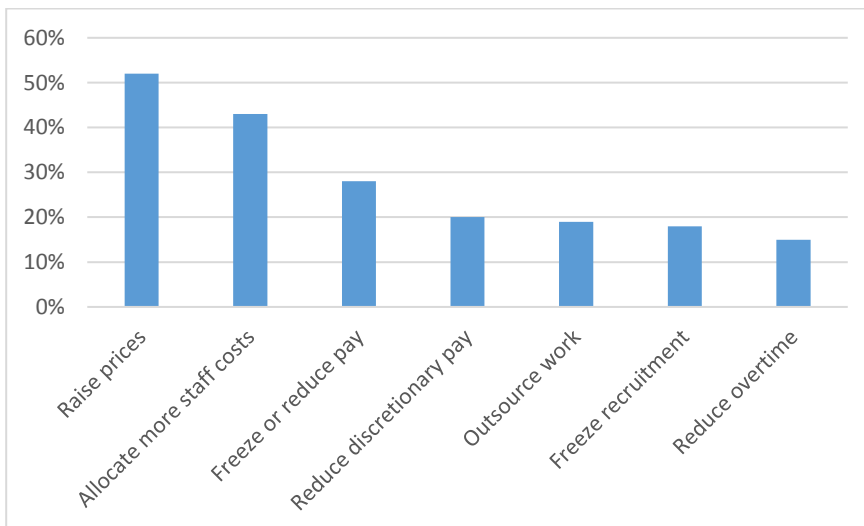
Figure 12: Trends in retail prices since 2008
Index, 2008 Q1 = 100



Source: States of Jersey Statistics Unit/Economics Unit calculations

Information which might be more informative is that from the Business Tendency Survey in March 2016, which asked firms about their likely response to the minimum wage. Under these circumstances, firms would be facing a cost that would not be borne by their competitors from outside the Island, so may be more limited in their ability to pass the cost increases on to consumers. Although the scale of the cost increase rising from an increase in the minimum wage is likely to be greater, it is still informative to see that just over 50% of firms indicated that they would increase prices. The 2 other responses* that were mentioned by more than 20% of firms were to allocate more for staff costs and freeze or reduce pay.

Figure 13: Response to an increase in the minimum wage*
% of respondents (multiple answers possible)



*The question was “If the minimum wage was increased to £7.65 in April 2017 for all staff aged 16 or over, would you take any of the following actions to manage increased wage costs?”

Source: Statistics Unit Business Tendency Survey

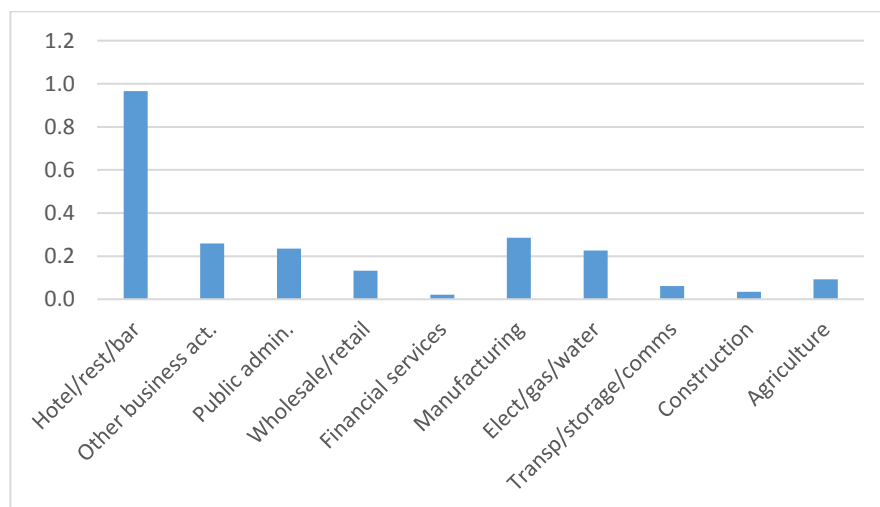
There is little reason – either from theory or evidence – to rule out that the introduction of the liquid waste charge will at least in part feed through into higher prices in the sectors most affected. The next section looks at what the distributional impact might be of higher prices in these sectors.

Distributional impact of higher prices

Figure 9 set out how the liquid waste charge was distributed by sector. However, the amount of charge incurred by sector does not indicate where it might be higher relative to the size of the sector. It would be useful to look at the charge as a proportion of turnover in the sector to get an idea of the intensity of the charge, but data on turnover by sector is not published. However, GVA is one way of measuring output by sector, and it is possible to look at the charge likely to be incurred by each sector as a proportion of GVA (when GVA is scaled down in proportion to the sample size).

Figure 14 below shows that hotels/restaurants/bars remains the sector that seems to be impacted most by the charge, and that business activities and public administration remain some of the sectors next most impacted. However, the impact of the charge in the manufacturing and utilities sector (electricity/gas/water) is greater relative to other sectors than when looking at the charge in nominal terms.

Figure 14: Liquid waste charge by sector
% of GVA*

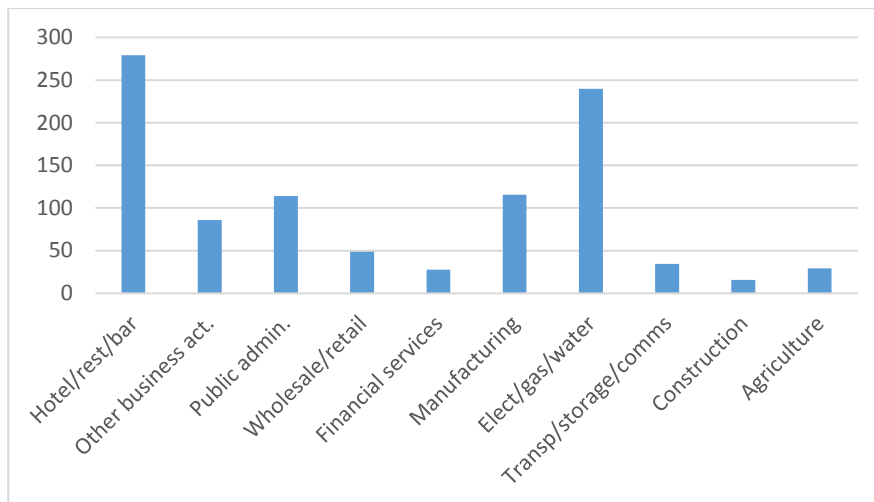


*scaled in proportion to the sample size

Source: Department for Infrastructure/Economics Unit calculations

It is also possible to look at the scale of the charge relative to employment and therefore per employee (on a headcount basis and scaled in portion to the sample size). **Figure 15** below shows that hotels/restaurants/bars remains the sector that seems to be impacted most by the charge, and that business activities and public administration remain some of the sectors most impacted. However, the impact of the charge in the manufacturing and utilities sector (electricity/gas/water) is greater relative to other sectors than when considering in nominal terms.

Figure 15: Liquid waste charge by sector
£ per employee*



*scaled in proportion to the sample size

Source: Department for Infrastructure/Economics Unit calculations

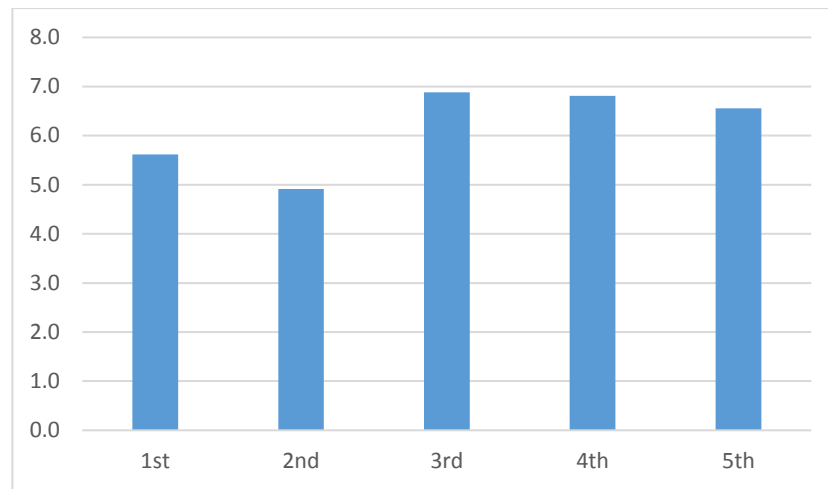
Given the information showing which sectors might be most affected and where the charge may be high, relative to output and/or employment, it is possible to consider what the distributional impact will be if some or all of the charge feeds through into prices in these sectors.

Hotels/restaurants/bars

Using the Statistics Unit Household Expenditure Survey, it is possible to separate out spending on hotels, restaurants and bars at the household level and by income quintile. This data will include spending on-Island and off-Island, whereas the liquid waste charge will only impact on businesses that operate in the Island. There is a risk that the spending patterns across the income distribution on hotels, restaurants and bars could vary between on-Island and off-Island.

For example, higher income groups could spend more off-Island than lower income groups, meaning that lower income groups are more affected by changes in on-Island prices than is implied by the data for all spending combined. However, the picture for all spending is clear – expenditure in the top 3 quintiles is actually higher as a proportion of income. This would suggest that the impact of higher prices in these sectors is different to that of a general increase in prices. That is, it would impact on households in a way that was more progressive.

Figure 16: Spending on hotels/restaurants/bars
% income by income quintile



Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

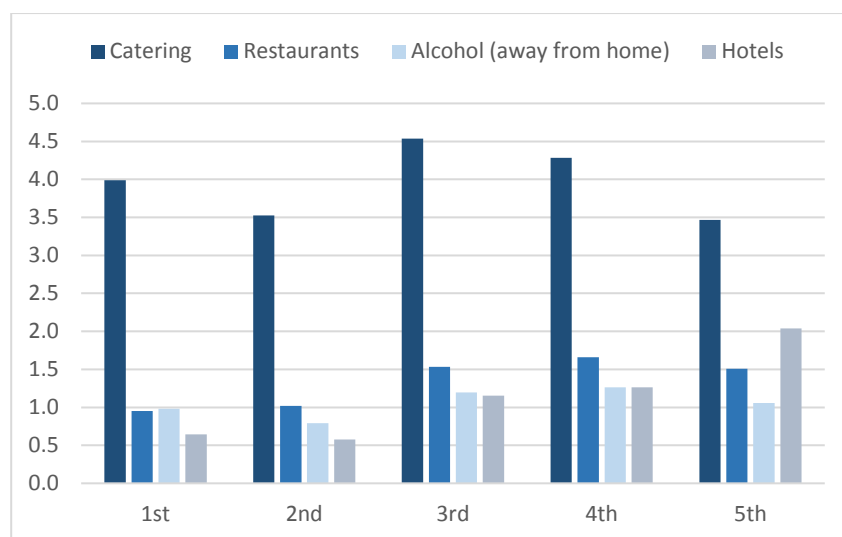
As already mentioned, there is a possibility that these trends could be different between spending on-Island and off-Island. The higher spend in the higher income groups could be driven more by off-Island spend, which will not be affected by the charge. For example, the higher income groups could spend much more on hotels off-Island. Breaking the data down by sub-category shows that these trends are consistent across the groups.

The chart below shows that spending on hotels is significantly higher in the top quintiles than in the lower quintiles, with the 5th quintile spending nearly twice as much as a proportion of income on hotels than any other quintile. In addition, it shows that the trends in the other categories show slightly different tendencies. Catering includes restaurants/cafés/pubs/takeaways, and while the third and fourth quintiles spend a higher proportion than the bottom 2 quintiles, the top quintile spends the equal lowest proportion. The picture for restaurants alone is one where there is a similar trend to that of hotels, but spending on alcohol follows a similar trend to catering.

Overall, given some of the uncertainty and variations outlined above, if the liquid waste charge feeds through into higher prices in the hotel/restaurants/bars sector, then the impact of this would be between proportional and progressive.

Figure 17: Spending on hotels/restaurants/bars

% income by income quintile



Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

Other business activities

The other business activities sector is a sector that covers a wide range of predominantly private sector service industries. It is therefore hard to determine which sectors may see higher prices and how it may impact on households across the income distribution. It is also notable that when the scale of this charge is considered relative to the output and employment of the sector, it appears to be lower relative to other sectors than when the situation is considered in nominal terms.

Given the limited data on this sector, it is hard to determine whether the impact of higher prices would feed through in the same way as a general rise in prices, or would show different distributional characteristics.

Public sector

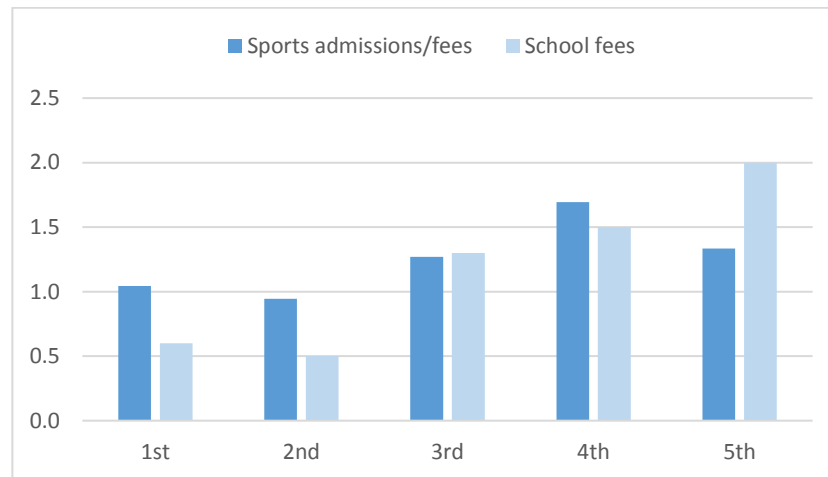
A significant proportion of the liquid waste charge will be raised from the public sector, and it is also high relative to output and employment when compared with other sectors. P.38/2017 proposes that the charge in the public sector will be offset by additional budgets provided from the overall income collected from the liquid waste charge, with a limited number of exceptions. This suggests that the distributional impact of this element of the charge will be the same as that of the charge as whole. Examples of the areas where the charge will not be provided for are fee-paying schools and sports facilities.

If the liquid waste charge feeds into higher school fees, then this is likely to impact in a progressive way, given the distribution of spending on school fees across the quintiles, as shown below. Spending on sports admissions, subscriptions, leisure class fees and equipment hire (admissions and fees below) has similar distribution across the income spectrum (although spending by the fifth quintile drops as a share of income). This may not be the same as spending in States-funded sports facilities, as it will include private

facilities which may be used more by the better-off. However, the liquid waste charge may impact on other sports facilities in a similar way, and be a further example of where higher prices in these facilities may not impact in a regressive way.

Figure 18: Expenditure on schools fees/sports admissions across the income distribution

% of income by income quintile



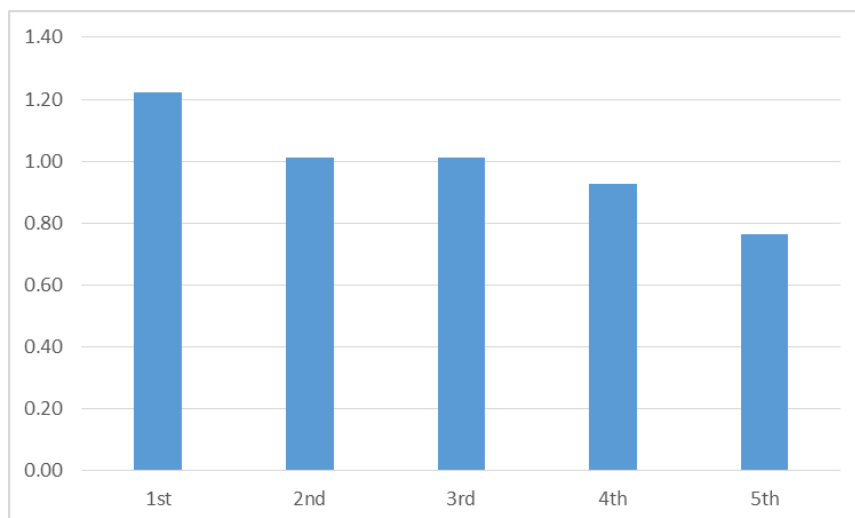
Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

If any element of the liquid waste charge paid by the public sector has to be funded centrally, it will have to be met by reductions/savings in expenditure in other services and/or increases in funding from general revenues. Depending on how the States were to meet these costs, the distributional impact could vary. For example, if funded from general income taxation, the impact could be broadly progressive, mildly regressive if funded through GST, or regressive if funded through user pays charges. The distributional impact of government spending changes are generally much harder to analyse than tax/benefits changes, and could have different impacts depending on the type of expenditure that is affected.

Wholesale/retail

A significant proportion of the liquid waste charge will be raised from the wholesale and retail sector, although the scale of the charge relative to employment and GVA is less than a number of the other sectors. If some of the charge is passed on to consumers and is equivalent to a general increase in prices, then the chart below shows that this will impact in a regressive way. If expenditure rises by 1% across each income quintile, then this would be mildly regressive across the bottom 4 quintiles, although the top quintile would pay a significantly lower proportion of their income than the other four, as expenditure is a much lower proportion of income.

Figure 19: Distributional impact of a general increase in prices/expenditure
1% increase in prices/expenditure, % of income by income quintile



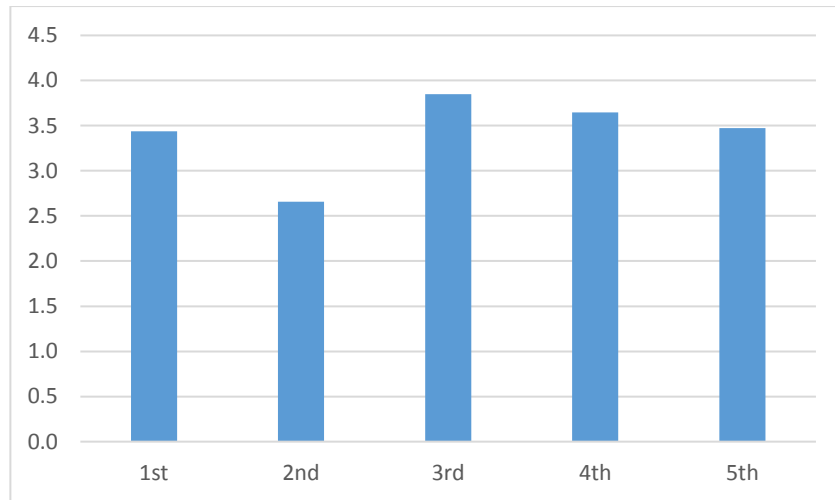
Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

Financial services

Although the potential impact on financial services is a significant proportion of the expected revenue from the charge, when it is considered relative to the size of the sector in terms of GVA and employment, it falls quite significantly relative to some of the other sectors. In addition, many of the financial services that Jersey provides are for the export market and people resident outside the Island. With competition in these markets from other jurisdictions, there may be limited scope for any increase in costs from the liquid waste charge to be passed on in prices. However, certain aspects of financial services provision may be more focused on the local market, such as home/motor insurance and provision of certain types of consumer credit. There is the possibility that there may be more scope to pass some of the charge through to consumers in such markets, particularly if businesses in this sector are impacted to the same degree.

Expenditure data on insurance and bank/building society services in Jersey does not show any clear regressive or progressive trends. Some of this expenditure may be with providers outside the Island, but assuming that the trends by quintile are the same for any on-Island expenditure, if prices do rise as a result of the liquid waste charge, then the impact may be closer to being proportional than regressive or progressive.

Figure 20: Expenditure on insurance and banking across the income distribution
 % of income by income quintile



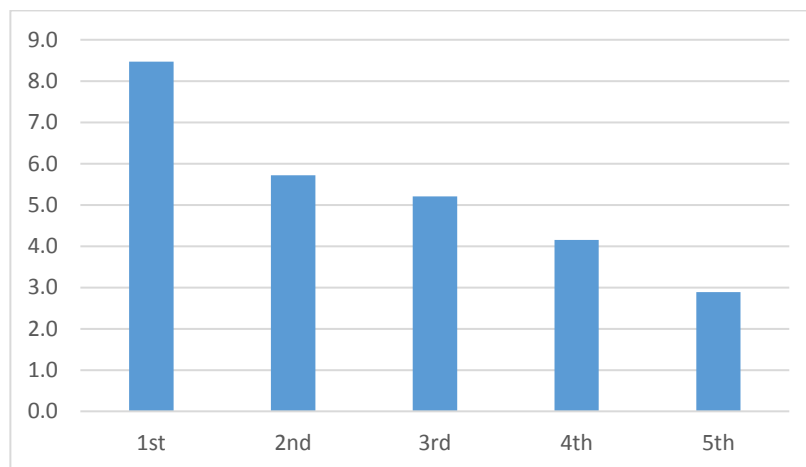
Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

Energy/gas/water and manufacturing

The energy/gas/water and manufacturing sectors are 2 sectors that will bear a relatively low proportion of the charge, but it will be higher as a share of GVA or per employees relative to some of the other sectors. The manufacturing sector is quite a mixture of businesses, and it is therefore difficult to identify where the any prices changes might show up in household expenditure. However, data in the household expenditure survey allows us to look at the electricity/gas/other fuels/water elements of household spending across the income distribution. The chart below shows that expenditure falls as a proportion of income as income rises, and this would suggest that any increase in prices in these sectors would feed through in a regressive way.

Figure 21: Expenditure on electricity/gas/other fuels/water across the income distribution

% of income by income quintile

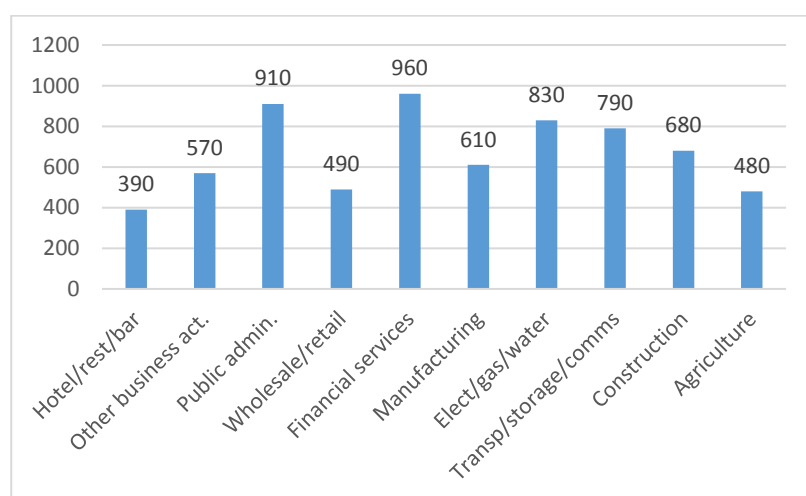


Source: Statistics Unit Household Expenditure Survey/Economics Unit calculations

Distributional impact of reduced employment costs

If not all the increase in costs associated with the liquid waste charge can be passed on in prices, then another likely consequence is that firms will look to reduce other costs, and in particular labour costs. That could be done by cutting hours and/or employment and/or reducing the rate of future pay increases. It is difficult to say how each firm might respond, and as a result which pay-groups might be affected. However, as the chart below shows, some of the sectors where the charge has the largest estimated impact are the ones that have the lowest average earnings in the economy. This suggests that if employers in the sectors most impacted by the liquid waste charge respond by reducing employment costs, the impact could feed through in a more regressive way.

Figure 22: Average earnings by sector
£ per week, excluding bonuses, June 2016



Source: States of Jersey Statistics Unit

Reduced returns for shareholders

If not all of the cost of the charge can be offset through efficiency gains, higher prices or reduced other costs, then the shareholders in the businesses impacted may have to accept lower dividends, and therefore returns, on their investment. Although the change may be minor (given the revenue raised by the charge and only a proportion of it may impact on shareholders), there is a risk that rather than these impacts being borne by the shareholders themselves (who may have higher incomes), that it may impact on Islanders in other ways.

For example, shareholders could try and restore their returns to the previous level and do so by trying to reduce costs in the business, either by reducing employment costs or through capital investments that can reduce costs. In the extreme, they could even withdraw their funding and invest it elsewhere in the economy or outside the economy. The results could be that again the final impacts are that those in employment in the sectors affected bear the brunt of the charge and, if so, the impact will be similar to that in the example above where employment costs are reduced, i.e. likely to be regressive.