

## TREASURY MANAGEMENT STRATEGY 2021/22

### 1. Introduction

Treasury management is the management of the Authority's cash flows, borrowing and investments, and the associated risks. The Authority has invested substantial sums of money and is therefore exposed to financial risks including the loss of invested funds and the revenue effect of changing interest rates. The successful identification, monitoring and control of financial risk are therefore central to the Authority's prudent financial management.

Treasury risk management at the Authority is conducted within the framework of the Chartered Institute of Public Finance and Accountancy's Treasury Management in the Public Services: Code of Practice 2017 Edition (the CIPFA Code) which requires the Authority to approve a treasury management strategy before the start of each financial year. This report fulfils the Authority's legal obligation under the Local Government Act 2003 to have regard to the CIPFA Code.

Tees Valley Combined Authority are supported by professional advisors Arlingclose Limited in order to ensure that up to date market advice and information on the most appropriate investment / borrowing options are obtained.

Through a service level agreement Stockton Borough Council (SBC) provides the Combined Authority with a treasury management service. The CIPFA code requires that staff with responsibility for treasury management receive adequate training to carry out this role. SBC assess the requirements for training as part of the staff appraisal process and they regularly attend courses and seminars provided by Arlingclose and CIPFA.

### 2. Economic Context

#### *Economic Background*

The impact on the UK from coronavirus, lockdown measures, the rollout of vaccines, as well as the new trading arrangements with the European Union (EU), will remain major influences on the Authority's treasury management strategy for 2021/22.

The Bank of England (BoE) maintained Bank Rate at 0.10% in December 2020 and Quantitative Easing programme at £895 billion having extended it by £150 billion in the previous month. The Monetary Policy Committee (MPC) voted unanimously for both, but no mention was made of the potential future use of negative interest rates. In the November Monetary Policy Report (MPR) forecasts, the Bank expects the UK economy to shrink -2% in Q4 2020 before growing by 7.25% in 2021, lower than the previous forecast of 9%. The BoE also forecasts the economy will now take until Q1 2022 to reach its pre-pandemic level rather than the end of 2021 as previously forecast. By the time of the December MPC announcement, a COVID-19 vaccine was approved for use, which the Bank noted would reduce some of the downside risks to the economic outlook outlined in the November MPR.

UK Consumer Price Inflation (CPI) for November 2020 registered 0.3% year on year, down from 0.7% in the previous month. Core inflation, which excludes the more volatile components, fell to 1.1% from 1.5%. The most recent labour market data for the three months to October 2020 showed the unemployment rate rose to 4.9% while the employment rate fell to 75.2%. Both measures are

expected to deteriorate further due to the ongoing impact of coronavirus on the jobs market, particularly when the various government job retention schemes start to be unwound in 2021, with the BoE forecasting unemployment will peak at 7.75% in Q2 2021. In October, the headline 3-month average annual growth rate for wages were 2.7% for total pay and 2.8% for regular pay. In real terms, after adjusting for inflation, total pay growth was up by 1.9% while regular pay was up 2.1%.

GDP growth rebounded by 16.0% in Q3 2020 having fallen by -18.8% in the second quarter, with the annual rate rising to -8.6% from -20.8%. All sectors rose quarter-on-quarter, with dramatic gains in construction (41.2%), followed by services and production (both 14.7%). Monthly GDP estimates have shown the economic recovery slowing and remains well below its pre-pandemic peak. Looking ahead, the BoE's November MPR forecasts economic growth will rise in 2021 with GDP reaching 11% in Q4 2021, 3.1% in Q4 2022 and 1.6% in Q4 2023.

GDP growth in the euro zone rebounded by 12.7% in Q3 2020 after contracting by -3.7% and -11.8% in the first and second quarters, respectively. Headline inflation, however, remains extremely weak, registering -0.3% year-on-year in November, the fourth successive month of deflation. Core inflation registered 0.2% y/y, well below the European Central Bank's (ECB) target of 'below, but close to 2%'. The ECB is expected to continue holding its main interest rate of 0% and deposit facility rate of -0.5% for some time but expanded its monetary stimulus in December 2020, increasing the size of its asset purchase scheme to €1.85 trillion and extended it until March 2022.

The US economy contracted at an annualised rate of 31.4% in Q2 2020 and then rebounded by 33.4% in Q3. The Federal Reserve maintained the Fed Funds rate at between 0% and 0.25% and announced a change to its inflation targeting regime to a more flexible form of average targeting. The Fed also provided strong indications that interest rates are unlikely to change from current levels over the next three years.

Former vice-president Joe Biden won the 2020 US presidential election. Mr Biden is making tackling coronavirus his immediate priority and will also be reversing several executive orders signed by his predecessor and take the US back into the Paris climate accord and the World Health Organization.

### ***Credit Outlook***

After spiking in late March as coronavirus became a global pandemic and then rising again in October/November, credit default swap (CDS) prices for the larger UK banks have steadily fallen back to almost pre-pandemic levels. Although uncertainly around COVID-19 related loan defaults lead to banks provisioning billions for potential losses in the first half of 2020, drastically reducing profits, reported impairments for Q3 were much reduced in some institutions. However, general bank profitability in 2020 and 2021 may be significantly lower than in previous years.

The credit ratings for many UK institutions were downgraded on the back of downgrades to the sovereign rating. Credit conditions more generally though in banks and building societies have tended to be relatively benign, despite the impact of the pandemic.

Looking forward, the potential for bank losses to be greater than expected when government and central bank support starts to be removed remains a risk, suggesting a cautious approach to bank deposits in 2021/22 remains advisable.

### **Interest Rate Forecast**

The Authority's treasury management adviser Arlingclose is forecasting that BoE Bank Rate will remain at 0.1% until at least the first quarter of 2024. The risks to this forecast are judged to be to the downside as the BoE and UK government continue to react to the coronavirus pandemic and the new EU trading arrangements. The BoE extended its asset purchase programme to £895 billion in November while keeping Bank Rate on hold and maintained this position in December. However, further interest rate cuts to zero, or possibly negative, cannot yet be ruled out but this is not part of the Arlingclose central forecast.

Gilt yields are expected to remain very low in the medium-term while short-term yields are likely remain below or at zero until such time as the BoE expressly rules out the chance of negative interest rates or growth/inflation prospects improve. The central case is for 10-year and 20-year to rise to around 0.60% and 0.90% respectively over the time horizon. The risks around the gilt yield forecasts are judged to be broadly balanced between upside and downside risks, but there will almost certainly be short-term volatility due to economic and political uncertainty and events.

A more detailed economic and interest rate forecast provided by Arlingclose is attached at Appendix A.

### **3. Borrowing Strategy**

In the Autumn Statement 2016, the government announced that it would give Mayoral Combined Authorities powers to borrow for their new functions subject to agreeing a borrowing cap with HM Treasury. This will align the Combined Authorities' financial powers with their new responsibilities, and give them the ability to invest in important priorities such as economic development and regeneration.

In November 2017 the borrowing cap was agreed between the Authority and Treasury (set out in the table below) and the Tees Valley Combined Authority (Borrowing) Regulations 2018' Statutory Instrument was laid before and approved by a resolution of each House of Parliament at the end of 2017.

	2019-20	2020-21	2021-22 *
TVCA long-term external debt	£571,100,000	£774,800,000	£774,800,000

\* We are currently in dialogue with Treasury regarding a review of our required borrowing cap and any changes to this cap will be reported during the year.

The Authority's chief objective when borrowing money will be to strike an appropriately low risk balance between securing low interest costs and achieving certainty of those costs over the period for which funds are required. The flexibility to renegotiate loans should the Authority's long-term plans change is a secondary objective.

The Authority's borrowing strategy will address the key issue of affordability without compromising the longer-term stability of the debt portfolio. With short-term interest rates currently much lower than long-term rates, it is likely to be more cost effective in the short-term to either use internal resources or to borrow short-term loans.

By following the borrowing strategy, the Authority will be able to reduce net borrowing costs and reduce overall treasury risk. The benefits of internal / short-term borrowing will be monitored regularly against the potential for incurring additional costs by deferring borrowing into future years when long-term borrowing rates are forecast to rise modestly. Arlingclose will assist the Authority with this 'cost of carry' and breakeven analysis. Its output may determine whether the Authority borrows sums at long-term fixed rates in future years with a view to keeping future interest costs low, even if this causes additional cost in the short-term.

Alternatively, the Authority may arrange forward starting loans during 2021/22, where the interest rate is fixed in advance, but the cash is received in later years. This would enable certainty of cost to be achieved without suffering a cost of carry in the intervening period.

In addition, the Authority may borrow short-term loans to cover unplanned cash flow.

### ***Sources of Borrowing***

The approved sources of long-term and short-term borrowing are:

- HM Treasury's PWLB lending facility (formerly the Public Works Loan Board)
- any institution approved for investments
- any other bank or building society authorised to operate in the UK
- any other UK public sector body
- UK public and private sector pension funds
- capital market bond investors
- UK Municipal Bonds Agency plc and other special purpose companies created to enable local authority bond issues.

### ***Other Sources of Debt Finance***

Capital finance may be raised by the following methods that are not borrowing, but may be classed other debt liabilities:

- leasing
- hire purchase
- Private Finance Initiative
- sale and leaseback

The Authority when borrowing will investigate all available sources of finance, such as local authority loans and bank loans, to achieve the most favourable rates.

The Prudential Code for Capital Finance in Local Authorities (Prudential Code) has been developed by the Chartered Institute of Public Finance and Accountancy to underpin the system of capital finance embodied in Part 1 of the Local Government Act 2003.

The key objectives of the Prudential Code are to ensure that capital investment plans are affordable, prudent and sustainable. The Prudential Code supports a system of self-regulation that is achieved by the setting and monitoring of a suite of Prudential Indicators that directly relate to each other.

The Prudential Indicators which the Authority will follow and the minimum revenue provision statement are set out in the capital strategy report (Appendix 2)

#### 4. Investment Strategy

The Authority currently holds significant invested funds, representing income received in advance of expenditure plus balances and reserves held. In the past 9 months, the Authority's investment balance has ranged between £58.5 million and £121.7 million. The new 10 year Combined Authority Investment Plan was approved in January 2019 setting out a forecasted expenditure profile over the period. The increased spending plans will reduce the previously held balances significantly and as such the invested funds will reduce to a minimal amount reserved for unforeseen circumstances during 2021/22.

The CIPFA Code requires the Authority to invest its funds prudently, and to have regard to the security and liquidity of its investments before seeking the highest rate of return, or yield. The Authority's objective when investing money is to strike an appropriate balance between risk and return, minimising the risk of incurring losses from defaults and the risk of receiving unsuitably low investment income. Where balances are expected to be invested for more than one year, the Authority will aim to achieve a total return that is equal or higher than the prevailing rate of inflation, in order to maintain the spending power of the sum invested.

All of the Authority's surplus cash is currently invested in short-term unsecured bank deposits, with other local authorities and money market funds. As a result of the anticipated increased expenditure in the coming year the Authority will continue with this approach, maximising interest returns through a managed cashflow process.

The Authority may invest its surplus funds with any of the counterparty types in the table below, subject to the cash limits (per counterparty) and the time limits shown.

##### Approved investment counterparties and limits

Credit rating	Banks unsecured	Banks secured	Government	Corporates	Registered Providers
UK Govt	n/a	n/a	£ Unlimited 10 years	n/a	n/a
AAA	£7,500,000 5 years	£15,000,000 10 years	£15,000,000 10 years	£7,500,000 10 years	£7,500,000 10 years
AA+	£7,500,000 5 years	£15,000,000 10 years	£15,000,000 10 years	£7,500,000 10 years	£7,500,000 10 years
AA	£7,500,000 4 years	£15,000,000 5 years	£15,000,000 10 years	£7,500,000 5 years	£7,500,000 10 years
AA-	£7,500,000 3 years	£15,000,000 4 years	£15,000,000 10 years	£7,500,000 4 years	£7,500,000 10 years
A+	£7,500,000 2 years	£15,000,000 3 years	£7,500,000 5 years	£7,500,000 3 years	£7,500,000 5 years
A	£7,500,000 13 months	£15,000,000 2 years	£7,500,000 5 years	£7,500,000 2 years	£7,500,000 5 years

A-	£7,500,000 6 months	£15,000,000 13 months	£7,500,000 5 years	£7,500,000 13 months	£7,500,000 5 years
None	n/a	n/a	£15,000,000 10 years	£5,000,000 5 years	£7,500,000 5 years
Pooled funds and real estate investment trusts		£15m per fund			

This table must be read in conjunction with the notes below

**Credit rating:** Investment limits are set by reference to the lowest published long-term credit rating from a selection of external rating agencies. Where available, the credit rating relevant to the specific investment or class of investment is used, otherwise the counterparty credit rating is used. However, investment decisions are never made solely based on credit ratings, and all other relevant factors including external advice will be taken into account.

**Banks unsecured:** Accounts, deposits, certificates of deposit and senior unsecured bonds with banks and building societies, other than multilateral development banks. These investments are subject to the risk of credit loss via a bail-in should the regulator determine that the bank is failing or likely to fail. See below for arrangements relating to operational bank accounts.

**Banks secured:** Covered bonds, reverse repurchase agreements and other collateralised arrangements with banks and building societies. These investments are secured on the bank's assets, which limits the potential losses in the unlikely event of insolvency, and means that they are exempt from bail-in. Where there is no investment specific credit rating, but the collateral upon which the investment is secured has a credit rating, the higher of the collateral credit rating and the counterparty credit rating will be used to determine cash and time limits. The combined secured and unsecured investments in any one bank will not exceed the cash limit for secured investments.

**Government:** Loans, bonds and bills issued or guaranteed by national governments, regional and local authorities and multilateral development banks. These investments are not subject to bail-in, and there is generally a lower risk of insolvency, although they are not zero risk. Investments with the UK Central Government may be made in unlimited amounts for up to 50 years.

**Corporates:** Loans, bonds and commercial paper issued by companies other than banks and registered providers. These investments are not subject to bail-in, but are exposed to the risk of the company going insolvent. Loans to unrated companies will only be made either following an external credit assessment or to a maximum of £5,000,000 per company as part of a diversified pool in order to spread the risk widely.

**Registered providers:** Loans and bonds issued by, guaranteed by or secured on the assets of registered providers of social housing and registered social landlords, formerly known as housing associations. These bodies are tightly regulated by the Regulator of Social Housing (in England), the Scottish Housing Regulator, the Welsh Government and the Department for Communities (in Northern Ireland). As providers of public services, they retain the likelihood of receiving government support if needed.

**Pooled funds:** Shares or units in diversified investment vehicles consisting of the any of the above investment types, plus equity shares and property. These funds have the advantage of providing wide diversification of investment risks, coupled with the services of a professional fund manager in return for a fee. Short-term Money Market Funds that offer same-day liquidity and very low or no volatility

will be used as an alternative to instant access bank accounts, while pooled funds whose value changes with market prices and/or have a notice period will be used for longer investment periods.

Bond, equity and property funds offer enhanced returns over the longer term, but are more volatile in the short term. These allow the Authority to diversify into asset classes other than cash without the need to own and manage the underlying investments. Because these funds have no defined maturity date, but are available for withdrawal after a notice period, their performance and continued suitability in meeting the Authority's investment objectives will be monitored regularly.

**Real estate investment trusts:** Shares in companies that invest mainly in real estate and pay the majority of their rental income to investors in a similar manner to pooled property funds. As with property funds, REITs offer enhanced returns over the longer term, but are more volatile especially as the share price reflects changing demand for the shares as well as changes in the value of the underlying properties.

**Operational bank accounts:** The Authority may incur operational exposures, for example through current accounts, collection accounts and merchant acquiring services, to any UK bank with credit ratings no lower than BBB- and with assets greater than £25 billion. These are not classed as investments, but are still subject to the risk of a bank bail-in, and balances will therefore be kept below £25 million per bank. The Bank of England has stated that in the event of failure, banks with assets greater than £25 billion are more likely to be bailed-in than made insolvent, increasing the chance of the Authority maintaining operational continuity.

**Risk assessment and credit ratings:** Credit ratings are obtained and monitored by the Authority's treasury advisers, who will notify changes in ratings as they occur. Where an entity has its credit rating downgraded so that it fails to meet the approved investment criteria then:

- no new investments will be made,
- any existing investments that can be recalled or sold at no cost will be, and
- full consideration will be given to the recall or sale of all other existing investments with the affected counterparty.

Where a credit rating agency announces that a credit rating is on review for possible downgrade (also known as "rating watch negative" or "credit watch negative") so that it may fall below the approved rating criteria, then only investments that can be recalled or sold at no cost will be made with that organisation until the outcome of the review is announced. This policy will not apply to negative outlooks, which indicate a long-term direction of travel rather than an imminent change of rating.

**Other information on the security of investments:** The Authority understands that credit ratings are good, but not perfect, predictors of investment default. Full regard will therefore be given to other available information on the credit quality of the organisations in which it invests, including credit default swap prices, financial statements, information on potential government support, reports in the quality financial press and analysis and advice from the Authority's treasury management adviser. No investments will be made with an organisation if there are substantive doubts about its credit quality, even though it may otherwise meet the above criteria.

When deteriorating financial market conditions affect the creditworthiness of all organisations, as happened in 2008 and 2011, this is not generally reflected in credit ratings, but can be seen in other market measures. In these circumstances, the Authority will restrict its investments to those organisations of higher credit quality and reduce the maximum duration of its investments to maintain the required level of security. The extent of these restrictions will be in line with prevailing financial

market conditions. If these restrictions mean that insufficient commercial organisations of high credit quality are available to invest the Authority’s cash balances, then the surplus will be deposited with the UK Government via the Debt Management Office or invested in government treasury bills for example, or with other local authorities. This will cause a reduction in the level of investment income earned, but will protect the principal sum invested.

**Investment limits:** The Authority’s revenue reserves available to cover investment losses are forecast to be £1,058k on 31st March 2021. The maximum that will be lent to any one organisation (other than the UK Government) will be £15 million. A group of banks under the same ownership will be treated as a single organisation for limit purposes. Limits will also be placed on fund managers, investments in brokers’ nominee accounts, foreign countries and industry sectors as below. Investments in pooled funds and multilateral development banks do not count against the limit for any single foreign country, since the risk is diversified over many countries.

Investment limits

	Cash limit
Any single organisation, except the UK Central Government	£15,000,000
UK Central Government	unlimited
Any group of organisations under the same ownership	£15,000,000
Any group of pooled funds under the same management	£37,500,000
Negotiable instruments held in a broker’s nominee account	£37,500,000
Foreign countries	£15,000,000
Registered providers and registered social landlords	£37,500,000
Unsecured investments with building societies	£15,000,000
Loans to unrated corporates	£15,000,000
Money Market Funds	£75,000,000
Real estate investment trusts	£37,500,000

**Liquidity management:** The Authority uses cash flow forecasting to determine the maximum period for which funds may prudently be committed. The forecast is compiled on a prudent basis to minimise the risk of the Authority being forced to borrow on unfavourable terms to meet its financial commitments. Limits on long-term investments are set by reference to the Authority’s investment plan and cash flow forecast.

**5. Treasury Management Indicators**

The Authority measures and manages its exposures to treasury management risks using the following indicators.



**Liquidity:** The Authority has adopted a voluntary measure of its exposure to liquidity risk by monitoring the amount of cash available to meet unexpected payments within a rolling three month period, without borrowing.

Liquidity risk indicator	Target
Total cash available within 3 months	£1m

**Interest rate exposures:** This indicator is set to control the Authority's exposure to interest rate risk. Based on the current level of investments held the one-year revenue impact of a 1% rise or fall in interest rates will be:

Interest rate risk indicator	Limit
One-year revenue impact of a 1% <u>rise</u> in interest rates	£800,230
One-year revenue impact of a 1% <u>fall</u> in interest rates	-£800,230

The impact of a change in interest rates is calculated on the assumption that investments will be replaced at current rates.

**Maturity structure of borrowing:** This indicator is set to control the Authority's exposure to refinancing risk. The upper and lower limits on the maturity structure of borrowing will be:

Refinancing rate risk indicator	Upper limit	Lower limit
Under 12 months	100%	0%
12 months and within 24 months	100%	0%
24 months and within 5 years	100%	0%
5 years and within 10 years	100%	0%
10 years and above	100%	0%

The upper limits have been set as wide as possible as this is necessary as the Authority currently has no debt portfolio and therefore setting the indicators more narrowly could be prohibitive. The limits will be reviewed and amended to be more meaningful if the authority takes out any borrowing.

**Principal sums invested for periods longer than a year:** The purpose of this indicator is to control the Authority's exposure to the risk of incurring losses by seeking early repayment of its investments. The limits on the long-term principal sum invested to final maturities beyond the period end will be:

Price risk indicator	2019/20	2020/21	2021/22
Limit on principal invested beyond year end	£15m	£10m	£5m

## 6. Related Matters

The CIPFA Code requires the Authority to include the following in its treasury management strategy.

**Financial Derivatives:** In the absence of any explicit legal power to do so, the Authority will not use standalone financial derivatives (such as swaps, forwards, futures and options). Derivatives embedded into loans and investments, including pooled funds and forward starting transactions, may be used, and the risks that they present will be managed in line with the overall treasury risk management strategy.

**Markets in Financial Instruments Directive:** The Authority has opted up to professional client status with its providers of financial services, including advisers, banks, brokers and fund managers, allowing it access to a greater range of services but without the greater regulatory protections afforded to individuals and small companies. Given the size and range of the Authority's treasury management activities, the Director of Finance believes this to be the most

The CIPFA Code does not prescribe any particular treasury management strategy for local authorities to adopt. The Section 73 officer, believes that the above strategy represents an appropriate balance between risk management and cost effectiveness. Some alternative strategies, with their financial and risk management implications, are listed below and will be considered if circumstance significantly change.

Alternative	Impact on income and expenditure	Impact on risk management
Invest in a narrower range of counterparties and/or for shorter times	Interest income will be lower	Lower chance of losses from credit related defaults, but any such losses may be greater
Invest in a wider range of counterparties and/or for longer times	Interest income will be higher	Increased risk of losses from credit related defaults, but any such losses may be smaller
Borrow additional sums at long-term fixed interest rates	Debt interest costs will rise; this is unlikely to be offset by higher investment income	Higher investment balance leading to a higher impact in the event of a default; however long-term interest costs may be more certain
Borrow short-term or variable loans instead of long-term fixed rates	Debt interest costs will initially be lower	Increases in debt interest costs will be broadly offset by rising investment income in the medium term, but long-term costs may be less certain

<p>Reduce level of borrowing</p>	<p>Saving on debt interest is likely to exceed lost investment income</p>	<p>Reduced investment balance leading to a lower impact in the event of a default; however long-term interest costs may be less certain</p>
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## **Appendix A – Arlingclose Economic & Interest Rate Forecast – December 2020**

### **Underlying assumptions:**

- The medium-term global economic outlook has improved with the distribution of vaccines, but the recent upsurge in coronavirus cases has worsened economic prospects over the short term.
- Restrictive measures and further lockdowns are likely to continue in the UK and Europe until the majority of the population is vaccinated by the second half of 2021. The recovery period will be strong thereafter, but potentially longer than previously envisaged.
- Signs of a slowing UK economic recovery were already evident in UK monthly GDP and PMI data, even before the second lockdown and Tier 4 restrictions. Employment is falling despite an extension to support packages.
- The need to support economic recoveries and use up spare capacity will result in central banks maintaining low interest rates for the medium term.
- Brexit will weigh on UK activity. The combined effect of Brexit and the after-effects of the pandemic will dampen growth relative to peers, maintain spare capacity and limit domestically generated inflation. The Bank of England will therefore maintain loose monetary conditions for the foreseeable future.
- Longer-term yields will also remain depressed, anchored by low central bank policy rates, expectations for potentially even lower rates and insipid longer-term inflation expectations. There is a chance yields may follow a slightly different path in the medium term, depending on investor perceptions of growth and inflation, or the deployment of vaccines.

### **Forecast:**

- Arlingclose expects Bank Rate to remain at the current 0.10% level.
- Our central case for Bank Rate is no change, but further cuts to zero, or perhaps even into negative territory, cannot be completely ruled out, especially with likely emergency action in response to a no-deal Brexit.
- Gilt yields will remain low in the medium term. Shorter term gilt yields are currently negative and will remain around zero or below until either the Bank expressly rules out negative Bank Rate or growth/inflation prospects improve.
- Downside risks remain, and indeed appear heightened, in the near term, as the government reacts to the escalation in infection rates and the Brexit transition period ends.

	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24
<b>Official Bank Rate</b>													
Upside risk	0.00	0.00	0.15	0.15	0.15	0.15	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Arlingclose Central Case	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Downside risk	0.30	0.40	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
<b>3-month money market r.</b>													
Upside risk	0.05	0.05	0.10	0.10	0.15	0.20	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Arlingclose Central Case	0.10	0.10	0.15	0.15	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Downside risk	0.30	0.40	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
<b>1yr money market rate</b>													
Upside risk	0.05	0.05	0.10	0.10	0.15	0.20	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Arlingclose Central Case	0.15	0.15	0.25	0.25	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Downside risk	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
<b>5yr gilt yield</b>													
Upside risk	0.40	0.40	0.45	0.45	0.50	0.50	0.55	0.60	0.60	0.65	0.65	0.70	0.70
Arlingclose Central Case	0.00	0.00	0.05	0.10	0.15	0.20	0.20	0.20	0.25	0.25	0.25	0.25	0.25
Downside risk	0.40	0.45	0.50	0.55	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
<b>10yr gilt yield</b>													
Upside risk	0.30	0.35	0.40	0.45	0.50	0.50	0.55	0.60	0.60	0.65	0.65	0.70	0.70
Arlingclose Central Case	0.25	0.30	0.35	0.35	0.40	0.40	0.45	0.45	0.50	0.55	0.55	0.55	0.60
Downside risk	0.50	0.50	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
<b>20yr gilt yield</b>													
Upside risk	0.40	0.40	0.45	0.45	0.50	0.50	0.55	0.60	0.60	0.65	0.65	0.70	0.70
Arlingclose Central Case	0.70	0.70	0.75	0.75	0.75	0.80	0.80	0.85	0.85	0.85	0.85	0.90	0.90
Downside risk	0.30	0.30	0.35	0.35	0.35	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
<b>50yr gilt yield</b>													
Upside risk	0.40	0.40	0.45	0.45	0.50	0.50	0.55	0.60	0.60	0.65	0.65	0.70	0.70
Arlingclose Central Case	0.60	0.60	0.65	0.65	0.65	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80
Downside risk	0.30	0.30	0.35	0.35	0.35	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40

**PWLB Certainty Rate (Maturity Loans) = Gilt yield + 0.80%**

**PWLB Infrastructure Rate (Maturity Loans) = Gilt yield + 0.60%**