

| \$1000 in n years | 2% | 5% | 10% |
|-------------------|--------|--------|--------|
| 1 year | 980.39 | 952.38 | 909.09 |
| 2 years | 961.17 | 907.03 | 826.45 |
| 5 years | 905.73 | 783.53 | 620.92 |
| 10 years | 820.35 | 613.91 | 385.54 |
| 30 years | 552.07 | 231.38 | 57.31 |

| Discount Factor | 2% | 5% | 10% |
|-----------------|-----|-----|-----|
| 1 year | 98% | 95% | 91% |
| 2 years | 96% | 91% | 83% |
| 5 years | 91% | 78% | 62% |
| 10 years | 82% | 61% | 39% |
| 30 years | 55% | 23% | 6% |

Fig. 4 — Author's calculations

Nobody wants to loan somebody \$1,000 of purchasing power today and only get \$385 back. The bond markets had typically relied on 2% inflation expectations, which would presumably be built into the interest rates determining the coupon, but with long-term inflation structurally increasing, there is no way this can be reflected in yields without sending them into double digits. Said simply, a lender would require an additional 10% return every year to offset each year's decay.

How does one estimate the increase in inflation? This is a pretty important exercise for a bond buyer (lender) and you would think that there were great models and tools to do so, but all we actually have is a statement from the Federal Reserve telling us to expect 2%, with some central bankers signalling an increase to 3% after the 2020 stimulus. A recent projection of the US Federal Deficit showed that it would grow to \$50 trillion in 2033 from \$25.7 trillion in 2023. That is a 7% annual increase. That is just annual spending and