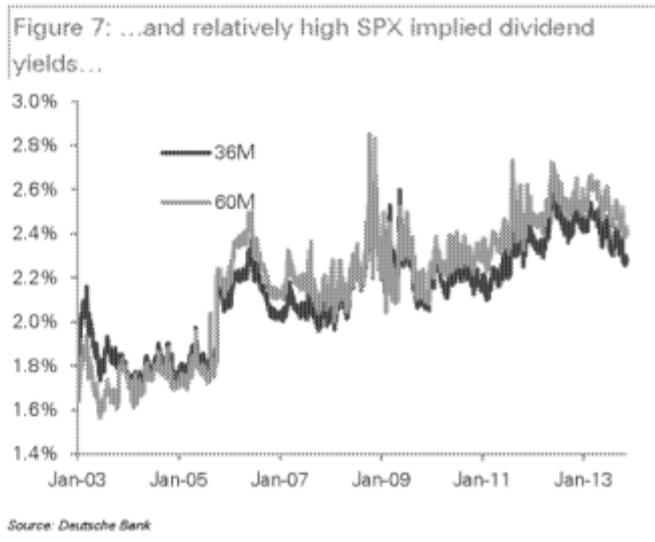




US interest rates have been depressed by the iterations of QE programs and dividend payments have been increasing in the post financial crisis recovery. The low level of rates (see Figure 6) and relatively high implied dividend yields (see Figure 7) have resulted in negative carry costs and have reduced the SPX forward (the spot value 'grown' by the carrying costs, see Figure 8).

Please note that the effect of the forward on the call premia is 'optics' – dividends will reduce the price of the underlying (and call options as well if actual dividends are higher than priced into options). However, as shown in Figure 2, rates rising from these low levels and/or dividend yields falling will result in a mark-to-market gain on the long call position, all else equal.



Anecdotally, a less material impact on SPX call premia is due to repo rates which decreased significantly at the beginning of 2013 and have rebased to a much lower range since then. The lower repo level and elevated repo volatility are factors that have pushed call prices slightly higher from where they would otherwise be.