Ejercicios propuestos C. Alexander – Present value of a basis point

18. Calculate the PV01 for £1 million notional in a 6% 4-year annual bond when the zero coupon rates are 4.50%, 4.75%, 4.85% and 5.00% at maturities of 1, 2, 3 and 4 years, respectively. Compare this with the value duration of the bond.
19. Suppose a cash flow has been mapped to vertices at 1 and 2 years with €19 million mapped to the 1-year vertex and €5 million mapped to the 2-year vertex. Suppose the 1-year zero rate is 4% and the 2-year zero rate is 4.5%. Use the approximation expression in the lecture notes to calculate the PV01 at each vertex and hence find the total PV01 of the mapped cash flow.