



From Hennessy JL, Patterson DA: Computer architecture: A quantitative approach, ed 6, Cambridge MA, 2018, Morgan Kaufmann.

FIGURE 4.77 The estimated composition of the CPI on the ARM A53 shows that pipeline stalls are significant but are outweighed by cache misses in the poorest performing programs (Chapter 5). These are subtracted from the CPI measured by a detailed simulator to obtain the pipeline stalls. Pipeline stalls include all three hazards. (From Hennessy JL, Patterson DA: *Computer architecture: A quantitative approach*, ed 6, Cambridge MA, 2018, Morgan Kaufmann.)