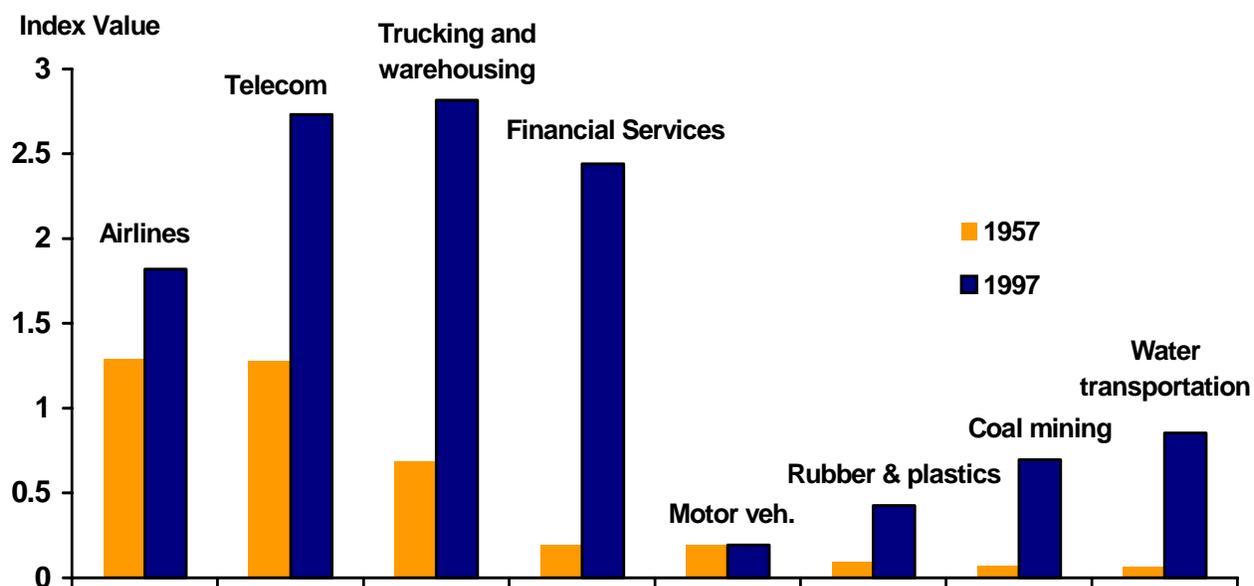


Productivity Gains from Innovation

An important debate in the economics of innovation concerns whether the fruits (“economic rents”) of innovation spillover from the producers of innovation to the users of innovation. For example, are the rents generated from the technological gains in computers captured by the computer industry or do they flow “downstream” to the many computer-using industries throughout the economy? One way to assess the extent of such downstreaming is to consider the innovativeness embodied in the types of equipment purchased in different industries and then to compare the productivity of these industries. This exercise reveals that innovations do flow downstream to using industries. The more innovative an industry’s equipment, the higher its (measured) multi-factor productivity (output per unit of combined input—capital and labor) tends to be. So, which industries use the most innovative capital? The answers may surprise you (see the figure).

Which Industries Use Innovative Capital? (Embodied R&D index for selected industries)



Source: National Science Foundation and FRBSF.

For more information see [“Where to Find the Productivity Gains from Innovation?”](#) FRBSF Economic Letter 2003-04.