and independent verification is not possible.[21]

The above quote, from the EIA *International Energy Annual 1992*, is itself subject to controversy at least on one count. The 1993 *BP Statistical Review of World Energy* claims that the increase in proved reserves of natural gas continues unabated, with the growth in 1992 coming mainly from the former Soviet Union and the Middle East.

The two key sources for proved reserve estimates of crude oil and natural gas are two US-based publications, *Oil & Gas Journal* and *World Oil*. Both are highly respected by government and private sectors alike; both produce authoritative issues. *Oil & Gas Journal* publishes year-end issues on proved reserves and on production. Yet they do differ on their estimates. For example, between 1991 and 1992, *Oil & Gas Journal* reported an increase of less than 1 percent in world crude oil reserves to 996 billion barrels, while *World Oil* reported an increase of 13 percent to 1,092 billion barrels. For natural gas, the higher estimate is by *Oil & Gas Journal*, which showed an increase of 12 percent to 4,883 trillion cubic feet versus *World Oil* with only a 3 percent rise to 4,817 trillion cubic feet. Differences can be attributed to varying definitions of reserves data. The variances come from both developed and developing nations: Australia, China, Egypt, Germany, Indonesia, Norway, Pakistan, Yemen, et al.[22]

The EIA relies on two other organizations for estimates of world coal reserves: British Petroleum (BP) and the World Energy Council. There are no significant differences, as both put global coal reserves at about 1,145 billion short tons. This makes coal the most plentiful of the fossil fuel reserves, with over 200 years at 1992 consumption levels....

> ***"There is no question, however, that reserve estimates constitute one of the "soft spots" in our energy knowledge."***

Conclusion

...there is no real danger of an energy crisis and no immediate major problems are seen in regard to supplies of primary fuels. Global and national economic growth will proceed, while energy conservation and other fuel-saving measures continue. As for energy statistics, there is no major problem on that front either. Gaps in the data are relatively few, and disagreement on "proved reserves" still allows a relatively narrow range of useful estimates. There is no question, however, that reserve estimates constitute one of the "soft spots" in our energy knowledge.

Endnotes:

[2] The treatment of electric power has changed; it is no longer seen as an energy end-use sector. Nuclear, hydro, and other renewable sources of electric power appear on the supply side along with fossil fuels. Electricity generation is viewed as converting the primary energy sources for use by the consuming (demand) sectors. For further details, see Electric Edison Institute reports and journals, such as *Electric World* and *Public Utilities Fortnightly*.

[21] AEO [Annual Energy Outlook] 94, p. 22; see also sources mentioned in endnote 2 above; see also AER [Annual Energy Review] 92, Chapter 8.

[22] See IEA [International Energy Annual] 92, p. 102 and AER92, p. 310. The World Energy Council defines proved recoverable reserves as the tonnage of proved amount in place that can be recovered (extracted from the earth in raw form) under present and expected local economic conditions with existing technology. British Petroleum in BP93 defines proved reserves as those quantities that geological and engineering information indicate with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions.

A Better Chance You'll Shoot Yourself Than Be Shot By Another

By John Allen Paulos

A recent spate of stories announces that guns will soon kill more people than do cars, the present number-one cause of injury-related deaths. The two graphs are projected to cross each other in the mid-1990s when, it's to be imagined, some safety-engineered car will function just long enough to participate in a drive-by shooting.

Although in favor of stricter gun control, I find these headlines a bit misleading. The Centers for Disease Control reports approximately 43,500 deaths in motor vehicle accidents and 38,300 deaths from firearms in 1991, the former number slowly decreasing, the latter increasing. But firearm deaths are almost always intentional. Only 4 percent of the 38,300 deaths from firearms were accidents, while 47 percent were homicides, 48 percent suicides, and the remaining 1 percent undetermined.*

*If a randomly chosen person adds up the probabilities that each of the $5^1/_2$ billion other people in the world will kill her, the sum, even in this violence-prone society, it is still less than the probability that she'll kill herself.