Real World Economics: Fatal high-rise fire raises wider cost and benefit questions

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A few weeks ago, five residents of the Cedar High Apartments in Minneapolis died in a fire. Several others were injured, some very seriously.

The upper floors where they lived did not have sprinklers. These were not required by the building code when constructed. Should they have been?

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Should sprinklers have been retrofitted at some time after construction, perhaps when the code was amended to require them in subsequent construction? Should they be installed now as the burned-out units are repaired? How would the number of lives saved by spending money on this compare to the number of that might be saved by spending equal sums on other measures?

Can we even estimate monetary values of such costs and benefits when lives are involved? Or is it immoral to even calculate any monetary value on human life? Does the value of a life depend on a person's age? Earning capacity? What if an individual bears some culpability in

the loss of his or her own life.

Questions of costs and benefits, whether monetary or not, come up every day for households and businesses.

Build the new farm shop needed for years — or are expected milk prices too dicey for it to pay off? Go to Branson, Mo., or save money for when Corollas's transmission finally dies? Shut down five poor-performing stores or keep them open through the 2020 holiday season? Take the daily whole pill prescribed for your blood pressure or split them and take half so saved co-pays can buy glasses for your sixth-grade grandchild? Use the insurance check from the person who hit you in the Cub Foods parking lot to fix the dent — or pay down a credit card bill and just drive a car that is rusty anyway?

In most such examples, estimates of costs and returns or relative benefits of different options are made subjectively and implicitly. Yes, a retail chain will make a formal analysis on opening or closing stores. If the dairy owner studied farm management, she might build spreadsheets comparing the annual costs of different size facilities at different interest rates, cost savings of doing more machinery maintenance in the winter, extended life of machines stored indoors and so forth.

So, some decisions, even for small businesses, can indeed be put in dollar terms, with the costs and benefits objectively clear. Others, such as the cost of having your systolic blood pressure in the 160s rather than 130s vs. the benefit of your granddaughter being able to read the board in her class, are purely subjective.

Now think about whether the Cedar High Towers public housing should have had sprinklers. Did a decision made in 1968 to not include them constitute criminal negligence, a deadly but understandable error, or a prudent allocation of scarce money? Was there any weighing of the probabilities of fires and probabilities of deaths in case of fires? Were projected values of human lives in 1979 or 2019 compared to annual amortized additional costs of the sprinklers calculated using the 10-year Treasury rates.

Or was it merely: "Well, the building code does not require sprinklers in this type of building, so we won't include them?"

When there is a tragedy like these five deaths, asking "why in the world weren't there sprinklers?" is a natural reaction. But deaths due to fires have been falling for decades, both in detached houses and in apartment buildings. Thousands of people have lived for decades in apartment towers built to the same code without being hurt. I'd say the original choice was prudent management of scarce public housing dollars or at worst an understandable mistake rather than culpable negligence.

It was not a critical error, as was the case of the inadequate steel gusset plates used in designing the fatally flawed former I-35W bridge, which collapsed into the Mississippi during

a summer 2007 Minneapolis rush hour, killing 13 people. But you might disagree

The opportunity cost of installing sprinklers, whether in 1969 or 2019, is that a given appropriation of housing money would build somewhat fewer units. There already are waiting lists for public housing, so fewer units built means more people living in higher priced housing that limits their food budget, or in squalid slums that may pose danger to life via plumbing that leaks raw sewage, wiring that may cause fire or lead paint that may stunt brain development in crawling infants.

There is a $150 million backlog of maintenance in Minneapolis public housing already.

Given these deaths, should local officials now require the retrofitting of sprinklers into older rental units, private as well as public? Would the higher rents or perhaps higher taxes be outweighed by saved lives? If we took $1 million and asked ourselves: “How could we most effectively save or prolong human lives with this money?” would the answer be “retrofit all public housing with sprinklers?” If not, where should we spend it?

Code officials and building engineers must make choices. When Congress passes laws like the Cameron Gulbransen Kids Transportation Safety Act of 2007, requiring rear-facing TV cameras in all cars manufactured from 2018 on, mechanisms existed to methodically compare costs and benefits.

First, the National Highway Transportation Safety Administration did studies: Some 200 people, mostly young children, died in car backover accidents each year; another 14,000 were injured. Rear-facing cameras would reduce both deaths and injuries, but not to zero. So do a sensitivity analysis looking at a range of possible reductions in deaths and injuries. Use the official federal “Value of a Statistical Life,” currently about $10 million, to put the benefits in dollar terms. Evaluate costs, estimated at $40 for models that already have a dashboard screen for the driver and $140 for models without. Multiply that by the numbers of each model in the 18 million new passenger vehicles sold each year.

Once the agency that will administer a regulation takes its cut at costs and benefits, the Congressional Budget Office makes its own congressionally mandated study to aid representatives and senators in their voting decision.

The fact that there must be a standard “value of a statistical life” illustrates the range of factors and value judgments needed. Historically, income-earning capacity was a factor in private lawsuits over wrongful deaths. Kill a cardiac surgeon by recklessly chain sawing a big oak over rush hour traffic on Como Avenue and your homeowners insurance company would be hit with a bigger settlement bill than if you killed an 80-year old retired concrete finisher going home from bingo at the VFW.

And, historically, young children had much less value in private lawsuits than adults. Societal norms are changing, however and the gap is closing.

Assert that the value of the life of a 32-year old mother with two kids is worth more to society than that of a hypertensive, arthritic 75-year old geezer who last reproduced 40 years ago and you will get angry emails about your immorality in believing one human life is worth more than another. Yet ask any grandparent about their willingness to die if that could save the life of a grandchild: There would be near unanimity in willingness to save the offspring's life.

That agrees with theories of evolution or socio-biology. Even in primitive societies, older warriors knew to sacrifice their own lives to save the children that were the genetic future of the clan, and the mothers and grandmothers who nurtured them; this was a biological imperative.

Yet in our modern era, can we really say that the life of the molecular biologist working on a cure for cancer is worth more dollars than the guy driving a snowplow for Murray County? Both have kids. Both do needed work for society. The snowplower may do much more in church and community leadership than the surgeon. Or does the driver embody greater potential value to society than the 32-year-old accountant with cystic fibrosis whose doctor just said the end of her life is near? What about the Down Syndrome teen spending days in a sheltered workshop?

The democratic process can lead to debacles. The 2008 Chatsworth, Calif., collision between a commuter train and a freight because an engineer fixated on his smartphone killed 25 and injured 135. It also prompted near-immediate passage of a federal law requiring all railroads to install Positive Train Control on all trains and tracks. Republicans who campaigned against the "dead hand of government regulation" voted aye at nearly as high a percentage as regulation-loving Democrats. The resulting $22 billion debacle will go down in history as having an even worse benefit-cost ratio than the Tennessee-Tombigbee navigation system that is paying about six cents on the tax dollar.

So the issues are complex. Will changing technology lower costs or auto rear-facing cameras? Will PTC facilitate railroads implementing new scheduling that will dramatically cut costs? So much more could be said.

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