Global Software Outage: Ghosts of Y2K

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Remember the Y2K panic of 1999?

Known as the "millennium bug" the newspapers were filled with panicked stories about how computer systems necessary for our modern way of life would malfunction. In reality, Y2K ended up being a non-event and the world moved on. So, what does this brief moment in the history of technology have to do with the global software outage we just witnessed today? Let's dive in!

The global IT glitch of '24 was an unprecedented event in a way that was simply not possible in the year 2000. We now live in a nearly fully networked world with a handful of scaled software providers with a relatively narrow product set, global reach and integrated technology stacks. In short, Y2K is possible today because Office 365 as an example is the same product across hundreds of millions of users globally. Further to the point it's important to appreciate that the most successful software companies today are cloud native software firms that leverage cloud computing giants Microsoft, Amazon, Google as the base datacenter layer and point of distribution. It's a simple case of economies of scale and that is why networked computing which we quaintly remember in 2000 as local area networks (LANs) has ultimately come to its developed form as cloud computing in 2024. This is a fundamental reason why the outage happened when security software provider CrowdStrike pushed a faulty content update onto Microsoft hosted products. The end result was a glitch that shook the world for a few hours.

I would expect that as we look ahead over the next decade we are likely to see even more concentration in the points of compute and across a handful of companies. In fact, I believe the largest oligopoly we are still in the process of building is the cloud computing super-giants that continue to have a long runway. This is largely because of the same reasons we go to where we are today (including the glitch). The most economical and efficient form of building cutting edge technology is to have centralized networked computing that is distributed to users all over. After all, "build it once and sell it many times" is the motto in software for a reason. Distributed computing or on-premise compute was an inferior more cumbersome and inefficient model which is why since 1999 we have been shifting globally towards the cloud model we have today.

As I reflect on the events of today I find it interesting that 25 years later the wild promises of 1999 during the building of the tech bubble did eventually come to fruition. We live in a world filled with many of the miracles promised by the technology companies of 1999, including the infamous Pets.com euphoria! We also have some of the negatives and that includes periodic outages that have the possibility to affect billions of people. As we remain fully in the throes of the hype around AI and its future promises, just imagine what we will say in 2049?

Have a great weekend!



Unpacking the Bank of Canada's Rate Cut

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Well they did it again, the Bank of Canada (BOC) cut interest rates by 0.25% to 4.5%.

It's not an exaggeration to say that in the last few years most of the Greater Toronto Area are eagerly waiting. I don't mean to be a downer but it's worth giving a more nuanced view on this simple idea that rate cuts = good news. Let's dive in!

Yield Curves 101: Often lost in the conversation around "rates" is that there is not one single interest rate, but a multi-tenor yield curve that has different rates at different maturities. To criminally simplify, every time the BOC acts they are only lowering the rate at the overnight point and we already have a deeply inverted yield curve. This means only a specific type of mortgage, a variable rate loan is actually benefitting from the rate cut directly. The unfortunate reality for many Canadians is the longer end of the yield curve such as the 2-year and 5-year maturity have already been reflecting a significant number of rate cuts implicitly. The 5-year rate in Canada today is 3.3%, a full 1.2% lower than the overnight rate which just got cut to 4.5%. In fact, it was cheaper for a homeowner in Jan 1 to borrow a 5-year fixed mortgage than today. For indebted Canadians betting on lower rates, I unfortunately don't see how a flattening of the yield curve on the short-end closer towards where the long-end is already sitting will provide much reprieve.

The Why?: Our economy is a complex machine and one dimensional explanations about rate cuts being "good" misses a fundamental point, the why. Interest rates generally move higher with stronger nominal and real growth that adds tightness the output and employment capacity of our economy. So its worth thinking deeply about why the BOC is cutting rates in the first place, its certainly not because unemployment or GDP per capita is moving in the right direction. The BOC is not cutting interest rates as a goodwill gesture, they're cutting rates because cyclical and structural headwinds are compounding for the Canadian economy and interest rate cuts are the only tool they can use to blunt the headwinds.

Its also a balancing act that is not cost free, we are competing for capital globally and that means interest rate cuts tend to drive weakness in the Canadian dollar as it did today. This is reducing our purchasing power globally.

We are likely entering a place over the coming years barring an outsized productivity boom (fingers crossed AI?) that our monetary policy architects have to choose between saving/reviving the housing market with more dovish rate cuts providing relief to homeowners at the expense of the dollar and the purchasing power loss that comes with socializing the impact to ~40 million Canadians.

I don't see this news today as a moment to celebrate, I worry we are in the early innings of a difficult path forward.

P.S. I'll be on BNN Market Call today at noon, hope you can dial-in!



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