

# APPENDIX A:

## WHEN INNOVATION HIDES THE BUBBLE

...and the Cost of Misreading Deflation

This quarter, I want to explore an idea that expands on my last essay, one that links this moment in markets to a recurring pattern in history. It's easy to blame asset bubbles on episodes of euphoria, as we saw during the dot-com boom. But more often, it's the subtler forces of policy inertia, productivity gains, and misunderstood deflation that can quietly lay the groundwork for the bubble to inflate. And in that regard, the 2020s may have more in common with the 1920s than we'd care to admit.

The decade following World War I was one of tremendous productivity. The fruits of the Industrial Revolution, particularly assembly line manufacturing, electrification, and mass production, dramatically improved productivity and reduced cost of goods. This innovation-induced deflation was not a symptom of weakness but a feature of progress. Yet, to policymakers at the time, falling prices raised concerns about economic fragility. The Federal Reserve, newly formed and still developing its framework for monetary policy, kept rates low through most of the 1920s even as margin debt, equity speculation, and credit expansion surged. It wasn't until 1928 that the Fed raised rates in earnest, and by then the speculative excess was baked in. The bubble burst the year thereafter.

Exactly a century later, we see a similar dynamic playing out. In the aftermath of the 2008 Great Financial Crisis, the Fed held the funds rate near zero for more than a

decade. Initially the liquidity was essential to boost the demand-side of the economy, and policymakers believed such extended duration was required to heal.

But, over time, structural productivity gains from cloud computing, SaaS, software automation, and globalization (particularly after China's addition to the WTO) began to shape the supply-side of the economy. These structural gains quietly exerted downward pressure on inflation, reinforcing the perception that sustained low rates were safe and warranted. Asset prices, particularly in equities, real estate, and venture capital rose sharply. Meanwhile, speculation flourished in unprofitable tech, crypto, and SPACs. While some degree of risk-taking is healthy, one could argue that lately we've been bordering on recklessness.

What we experienced was not just the result of cheap money. It was a cycle sustained by productivity-led deflation that obscured the true cost of capital. As in the 1920s, the Fed saw tame CPI prints and assumed stability. But while consumer prices remained stable, leverage and speculation metastasized, fueling a sharp rise in asset prices.

There's a lesson here that I believe monetary policy should incorporate: **deflation is not always indicative of economic weakness. In periods of rapid innovation, it can be a byproduct of progress.** This will be even more important to remember in the years ahead. As I wrote in *Tools of Labor and Thought: The Imminent Intelligence Revolution*, the rise of artificial intelligence marks the dawn of a new productivity epoch, one whose deflationary effects may once again cloud our view of underlying risk.

For long-term investors, this realization offers a valuable lens. In speculative booms, capital chases narrative. In the aftermath, capital seeks cash flows. Our focus remains on businesses that generate real, durable earnings, benefit from the innovation trends, and are run by capable capital allocators.

Innovation itself is never the enemy. But in periods like these, it can be the perfect disguise for excess. Our job, as ever, is to look beyond the short-term crowd and remain grounded in fundamentals.