The Paradox of Quantum Narratives: When Markets Collapse the Wave Function

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Key Takeaways

- In late 2025, rumors of U.S. government equity stakes in quantum firms like D-Wave and Rigetti triggered double-digit rallies, showing how speculative sentiment and policy whispers can rapidly reprice emerging tech sectors.
- Despite negligible revenues, quantum computing companies are drawing investor attention as proxies for future potential, especially when state-backed capital adds psychological and strategic credibility.
- The WisdomTree Quantum Computing Fund (WQTM) captures this high-conviction theme by systematically weighting firms based on quantum relevance and purity, positioning investors ahead of the sector's possible re-rating.

The Paradox of Quantum Narratives

Quantum mechanics has always delighted in paradoxes: the cat that's both alive and dead, the particle that is also a wave. So perhaps it's fitting that the world of quantum investing would take on a similar ambiguity. In October, reports surfaced suggesting that the Trump administration was in active discussions to take equity stakes in pure-play quantum computing firms like D-Wave, IonQ and Rigetti. Hours later, another report denied that any such talks were occurring1. Like a superposition2, both statements seemed true until observed, and neither confirmed anything definitive. The mere possibility, however, was enough to send these quantum names surging by double digits in a single trading session.3

Between State Capitalism and Market Faith

Whether or not Washington ever takes those stakes may matter less than what the rumors represent. We're witnessing a fusion of industrial policy and market psychology unlike anything since the postwar era. The Barron's cover story on "How Trump Sparked a New Era of State Capitalism"4 frames it bluntly: Uncle Sam has become one of the most influential investors in America, converting subsidies and grants into equity positions across sectors from chips to minerals. The goal is dual: fortify supply chains and project national resilience. But in practice, each intervention rewrites the rules of private enterprise. Investors are suddenly learning to price political intent as a new risk premium, or opportunity.

The Intel Case Study: Confidence as Capital

Intel offers the clearest recent precedent. Once a symbol of American decline in semiconductors, it became a beneficiary of this new policy wave: A government grant turned into a 10% equity stake, followed by private inflows from SoftBank and NVIDIA. The outcome wasn't just liquidity; it was legitimacy. Markets re-rated Intel not because of immediate profit improvement, but because a credible buyer of last resort had stepped in. The Trump stake bought Intel time, and time bought Intel confidence.5 In a capital-intensive business where psychology often leads fundamentals, that confidence can be worth tens of billions.

The Stakes for Quantum's Future

The quantum computing sector, still years away from commercial scale, now sits at the intersection of technology's most speculative promise and the state's most strategic ambitions. If Intel's revival showed that a government stake can restore belief, the quantum paradox6 shows that even *rumors* of involvement can reprice entire industries. The outcome, whether the talks were real, denied or both, illustrates how markets are beginning to trade not just on the physics of qubits7, but on the politics of capital allocation. In that sense, quantum may be the perfect metaphor for this new industrial era: everything is uncertain until it isn't.

From Paradox to Portfolio

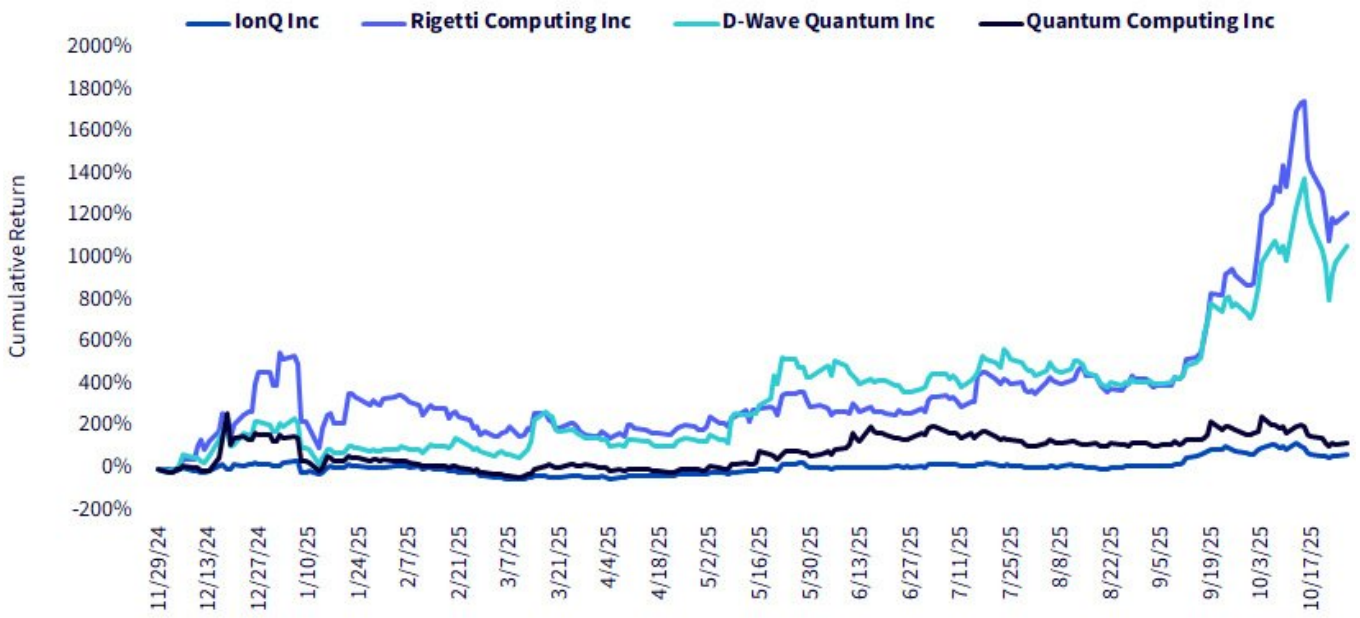
For investors, the task now is to separate the narrative superposition from measurable progress. The four public quantum names, D-Wave, IonQ, Rigetti and Quantum Computing Inc., occupy a strange position in markets: companies with negligible revenues, immense optionality and capitalization structures that trade more on faith than fundamentals. They've each become proxies for different visions of quantum's future, hardware, software and hybrid approaches to algorithmic acceleration. In that sense, they are not yet competing with one another so much as competing for belief: which firm can convince investors, partners and perhaps governments that their qubits will collapse the probability wave8 first. Whether state capital enters the picture or not, the real investment question may be whether confidence alone can sustain a quantum ecosystem long enough for the technology to prove itself.

As we see in figure 1:

- Quantum computing equities, particularly Rigetti and D-Wave, surged immediately following Google's December 2024 unveiling of its *Willow* quantum chip, reflecting renewed investor belief in near-term commercial viability. IonQ and Quantum Computing Inc. participated modestly, but the market clearly favored firms perceived to benefit from spillover technological validation and rising strategic interest in quantum hardware.
- By mid-2025, another sharp rally emerged, led by Rigetti and D-Wave, coinciding with announcements around quantum-AI convergence and geopolitical funding in quantum R&D. The figure illustrates the extreme sensitivity to sentiment and policy news. The late-2025 retracement suggests investors, again, were differentiating between tangible progress and narrative momentum.

In our discussions with investors, we note that it's far easier to write catchy headlines than it is to remember that the process to get to universal, fault-tolerate quantum computing9 will take a series of advances occurring over the coming years.

Figure 1: Performance of the Four Public Quantum Companies since Google's Willow Chip Announcement in 2024



Sources: WisdomTree, Bloomberg and, for Google's Willow chip announcement date, Google Research, "Meet Willow, our state-of-the-art quantum chip" [blog post], Google, 12/9/24. **Past performance is not indicative of future returns.**

Capturing the Quantum Computing Ecosystem

At WisdomTree, we've designed our quantum computing methodology to systematically identify and weight the companies driving progress across the full stack of this emerging field, from the physics of qubits to the commercialization of cloud-based quantum services. The WisdomTree Quantum Computing Fund (WQTM) is the specific strategy reflecting this process.10

From Classification to Relevance

Each company is assigned a **Relevancy Score**, ranging from 1 to 3, reflecting the **significance of its quantum computing involvement** and its **impact on the field's advancement**. Importantly, what we note below are guidelines to help investors understand what we mean when we say the relevancy score, but we are recognizing as well that quantum computing is a fast-moving space. If new details and important focal points are coming to light as quantum computing evolves, our framework is flexible enough to account for this in the future. We look at how what's important or impactful in quantum computing is evolving, as well as what different companies are doing and how that may be evolving.

- **A Relevancy Score of 3** identifies companies at the core of the quantum revolution: those directly developing qubits, chips or algorithms (e.g., IonQ, Rigetti, D-Wave).
- **Relevancy 2** captures those in adjacent or foundational segments, such as post-quantum cryptography or quantum networking.
- **Relevancy 1** applies to indirect enablers, such as high-performance computing providers or diversified firms supplying quantum-ready infrastructure.

This layered approach ensures the portfolio remains anchored in the technology's frontier while acknowledging the broader ecosystem that will make large-scale, universal, fault-tolerant quantum computing viable. In the latter part of 2025, we recognize the difference between what might provide utility in the near term, and what might be more geared toward the future fault-tolerant era in this space.

Purity: Differentiating Core from Complementary Players

Alongside Relevancy, every company is tagged as Pure or Diversified, based on business focus and quantum revenue concentration.

- **Pure players** are firms whose identity and growth trajectory are predominantly tied to quantum computing innovation, whether hardware (D-Wave, Rigetti), software (Quantum Computing Inc.) or hybrid systems (IonQ).
- **Diversified players** are established technology leaders such as IBM, Microsoft and Alphabet, whose quantum initiatives sit within larger, multi-segment operations but contribute crucially to ecosystem development. We recognize that they are one of the driving forces behind some of the progress we are seeing overall in quantum computing.

This Purity dimension balances exposure: pure plays drive thematic precision and upside potential, while diversified leaders provide the potential for liquidity and volatility mitigation.

Weighting the Ecosystem

Once relevancy and purity are established, our methodology applies a two-stage weighting process. Equal-weighted starting positions are first adjusted upward for higher Relevancy Scores and then further scaled by Purity, giving pure and highly relevant firms the largest representation in the final Index. The outcome is a quantitatively disciplined yet thematically expressive portfolio, where index weights reflect not market cap dominance but quantum significance.

Visible in figure 2, as of the most recent rebalance in August 2025, the top 10 holdings represent 43.1% of the total Index, led by D-Wave, IonQ and Rigetti, each receiving the highest possible Relevancy and Purity designations. This structure helps ensure that if the market re-rates the sector, whether from government partnership rumors or real technical milestones, WisdomTree investors are positioned to capture the potential upside.

Figure 2: Top 10 Positions as of the Most Recent Rebalancing (August 2025)

Company Name	Classification	Relevancy Score	Purity	Final Weights
D-Wave Quantum Inc	Quantum annealing and simulation providers	3	Pure	6.16%
IonQ Inc	Quantum chips and qubit technology providers	3	Pure	6.16%
Rigetti Computing Inc	Quantum chips and qubit technology providers	3	Pure	6.16%
Quantum Computing Inc	Quantum software and algorithm providers	2	Pure	4.74%
Alphabet Inc	Quantum chips and qubit technology providers	3	Diversified	3.32%
Amazon.com Inc	Quantum chips and qubit technology providers	3	Diversified	3.32%
Fujitsu Ltd	Quantum chips and qubit technology providers	3	Diversified	3.32%
Intel Corp	Quantum chips and qubit technology providers	3	Diversified	3.32%
International Business Machines Corp	Quantum chips and qubit technology providers	3	Diversified	3.32%
Microsoft Corp	Quantum chips and qubit technology providers	3	Diversified	3.32%
Total Weight in Top 10 Positions				**43.13%**

Sources: WisdomTree, Classiq, with data shown as of the August 2025 rebalancing process. **Subject to change.**

Conclusion

Quantum computing today sits in a peculiar state of duality; its commercial impact remains years away, yet its strategic importance is already undeniable. Governments debate whether to invest; investors debate whether to believe. And while both sides toggle between speculation and conviction, the real progress continues in laboratories, data centers and chip foundries across the world. The companies at the heart of this movement—those engineering qubits11, building error-correction algorithms and designing quantum operating systems—are shaping an infrastructure that will one day be as indispensable as semiconductors or cloud computing. The paradox is that you don't wait for quantum computing to be certain before it becomes investable; you position for its inevitability while uncertainty is still priced in.

That's precisely what WisdomTree's methodology is designed to do. By combining quantitative discipline with qualitative insight, balancing **relevancy**, **purity** and **ecosystem breadth**, we've constructed a framework that is designed to capture the economic nucleus of quantum progress, not just its headlines. The outcome is an exposure that naturally tilts toward the innovators most likely to define the field's future, while maintaining diversified ballast in enabling technologies and adjacent infrastructure. If the sector

rallies, whether from a government catalyst, technical breakthrough or sudden re-rating of possibility, our structure helps ensure participation with purpose. In an industry where timelines stretch across decades, WisdomTree's approach is about more than capturing returns; it's about securing a front-row seat to the next computational epoch.

1 Sources: The Wall Street Journal Staff, "Trump administration in talks to take equity stakes in quantum computing firms," The Wall Street Journal, 10/22/25; M. Tatananni and A. Clark, "Trump administration denies negotiating stakes in quantum computing companies: These stocks leaped on the news," Barron's, 10/23/25.

2 Superposition is the quantum principle that a qubit can occupy multiple states at once—such as 0 and 1—until it is measured. This property allows quantum computers to explore many possibilities in parallel.

3Source: M. Tatananni and A. Clark, 10/23/25.

4 Source: J. Light, "How Trump sparked a new era of state capitalism," Barron's, 10/22/25.

5 Source: M. Acton, "Intel shares jump on improved revenue as turnaround shows progress," Financial Times, 10/23/25.

6 A quantum paradox is an apparent contradiction that arises when quantum behavior defies classical intuition, revealing how quantum systems operate differently from everyday physics. These paradoxes often highlight foundational limits of measurement, determinism, and observation.

7 Qubits are the basic units of quantum information that can exist in a combination of 0 and 1 simultaneously. They enable quantum computers to process information in ways impossible for classical bits.

8 A probability wave (or wavefunction) describes the mathematical distribution of all possible states a quantum system can occupy. Measuring the system collapses this wave into a single outcome.

9 Refers to methods that allow quantum computers to operate reliably even when individual qubits and operations experience errors. It relies on quantum error-correcting codes to ensure stable, scalable computation.

10 WQTM is designed to track the total return performance, before fees and expenses, of the WisdomTree Classiq Quantum Computing Index.

11 The physical hardware implementations of qubits—such as superconducting circuits or trapped ions—that embody the idealized quantum information unit in real devices. They come with real-world constraints like noise, decoherence, and fabrication limits.

Important Risks Related to this Article

For current holdings of WQTM, please click here. Holdings are subject to risk and change.

There are risks associated with investing, including the potential loss of principal. To the extent the Fund invests a significant portion of its assets in the securities of companies of a single country or region, it is more likely to be impacted by events or conditions affecting that country or region. The economic, political, regulatory and other events and conditions that affect issuers and investments in the United States differ significantly from those associated with other countries and regions. U.S. financial markets have become increasingly globalized, becoming more integrated with financial markets around the world, and, as a result, U.S. financial markets are increasingly vulnerable to the risks that may affect non-U.S. financial markets. The Fund's investments in the U.S. are particularly subject to the risk that they, and the U.S. economy more generally, will be adversely affected by a decrease in imports or exports, changes in trade regulations, inflation and/or an economic recession in the U.S. The Fund invests primarily in the securities of quantum computing companies. Companies engaged in the development of quantum computing or machine learning technology may be significantly impacted by rapid technological advancements, product obsolescence, intense competition, consumer demand and government regulation. Such companies are also heavily dependent upon patent and intellectual property rights. Tariffs placed on specialized components and/or raw materials used by such companies may increase costs and delay progress associated with research and developments in quantum computing and machine learning. The Fund invests in the securities included in, or representative of, its Index regardless of their investment merit, and the Fund does not attempt to outperform its Index or take defensive positions in declining markets. The composition of the Index is heavily dependent on quantitative and qualitative information and data from one or more third parties, and the Index may not perform as intended. Please read the Fund's prospectus for specific details regarding the Fund's risk profile.