India's Crypto Tax: A Natural Experiment

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2026-03-01

Two Shocks, One Country

On April 1, 2022, India introduced a 30% flat tax on all cryptocurrency capital gains — no offsets against losses, no graduated rates, no deductions. Three months later, on July 1, the government added a 1% tax deducted at source (TDS) on every crypto transaction, regardless of whether it was profitable.

The result was immediate and dramatic. Monthly trading volume on India's major domestic exchanges — WazirX, CoinDCX, CoinSwitch, ZebPay — fell from roughly $4 billion in early 2022 to under $600 million by the end of the year. An 86% collapse. By any surface reading, India's crackdown had accomplished exactly what it intended: it crushed crypto trading.

But that reading is wrong.

Where Did the Volume Go?

India's domestic exchange volume collapsed. Indian crypto activity did not. Chainalysis, a blockchain analytics firm that tracks global cryptocurrency flows, ranks India's adoption using a composite index that captures both domestic and offshore exchange activity, peer-to-peer transfers, and on-chain transactions. India ranked 11th globally in 2020, rose to 2nd in 2021, held at 4th in 2022 — the year of the tax shocks — and climbed to 1st in the world in 2023 (Chainalysis2023).

Read that again. India imposed the harshest crypto tax regime of any major economy, and its overall crypto adoption *increased* to the top of the global rankings.

The explanation is straightforward: Indian traders migrated to offshore platforms — Binance, OKX, Bybit — that operate beyond the reach of Indian tax authorities. The Esya Centre, a New Delhi policy research institute, documented this migration in detail (EsyaCentre2023). Over 90% of Indian trading activity moved offshore rather than ceasing. The domestic exchanges bore the full cost of the regulation. The activity itself simply changed addresses.

This is what economists call *displacement*: the policy reduced the measured variable (domestic volume) without reducing the underlying behavior (crypto participation). Roughly 72% of the pre-tax domestic volume reappeared on offshore platforms, with the remainder likely shifting to peer-to-peer channels and decentralized exchanges that are even harder to monitor.

Why This Is Such a Clean Experiment

Natural experiments in economics are usually messy. Policies phase in gradually, multiple reforms overlap, treatment and control groups differ in important ways that confound the analysis. India's

crypto tax avoids most of these problems.

Two discrete, large shocks. The 30% capital gains tax arrived on a specific date (April 1) and the 1% TDS on another (July 1). These are not gradual regulatory tightenings. They are sharp breaks in the cost of transacting, identifiable to the exact day.

Clear treatment group. India is the treated country. Its domestic exchanges are regulated entities that must comply with the tax. There is no ambiguity about who is affected.

Plausible control group. Six donor countries — Indonesia, Philippines, Vietnam, Thailand, Nigeria, and South Korea — provide a synthetic control. These countries have similar crypto adoption profiles and were not subject to comparable tax shocks during the same period. A synthetic control method, which constructs a weighted combination of donor countries to approximate what India would have looked like absent the policy, produces a good pre-treatment fit.

Measurable outcome. Domestic exchange volume is reported monthly, denominated in dollars, and verifiable against blockchain data.

The result of the synthetic control analysis: India's post-treatment volume collapse is the largest treatment effect in the donor pool. A permutation test — which asks "how often would we see an effect this large by chance if the treatment had been randomly assigned?" — yields $p = 0.143$. With only seven countries in the pool (one treated, six donors), $p = 1/7 = 0.143$ is the smallest possible permutation p-value. India's collapse is unambiguously the largest in the sample.

The Two Shocks Were Not Equal

An event-study regression on India's domestic volume reveals that both tax shocks were individually significant ($p < 0.01$ for each), but they were not equal in magnitude. The 1% TDS had a substantially larger effect than the 30% capital gains tax.

This makes economic sense. The capital gains tax applies only to profits — if you buy and sell at the same price, you owe nothing. A trader who is careful about timing, or who is simply unlucky enough to have no gains, bears no additional cost from the 30% rate. The TDS, by contrast, applies to every transaction regardless of outcome. It is a 1% toll on gross volume, payable immediately and automatically deducted by the exchange.

For an active trader making dozens of transactions per month, the TDS compounds rapidly. A 1% haircut per transaction, applied to the full notional value, can consume a significant fraction of capital over the course of a trading month. The incentive to move offshore becomes overwhelming not because 1% sounds large, but because it applies to *everything*.

The combined regression model explains 94% of the variation in India's domestic volume ($R^2 = 0.938$, $n = 27$ monthly observations). The fit is unusually tight for a macroeconomic natural experiment.

The Pattern Repeats

India is not the only country to discover that prohibition displaces rather than eliminates crypto activity. China provides the other canonical example.

In May 2021, China banned cryptocurrency mining outright. The effect on the global hashrate — the total computational power securing the Bitcoin network — was immediate and massive. China's share of global hashrate dropped from approximately 46% to near zero within weeks. The network's total computational power fell by nearly half.

Within six months, the hashrate had fully recovered. Miners relocated their equipment to the United States, Kazakhstan, Russia, and other jurisdictions. By early 2022, the network was processing more computation than before the ban. China had not killed Bitcoin mining. It had exported its mining industry to competitors.

The parallel to India's tax experiment is exact. China targeted the supply side (mining); India targeted the demand side (trading). Both achieved complete success in removing the targeted activity from domestic observation. Neither achieved any measurable reduction in the underlying global activity. The network adapted. The behavior moved.

What This Tells Us

The India experiment is a direct test of a prediction from the CES framework's settlement feedback model. When users can substitute between domestic and offshore channels for the same service, imposing friction on the domestic channel does not eliminate demand — it redirects it. The framework models this as a channel substitution problem: the effective elasticity of substitution between domestic and offshore crypto access is very high, meaning users can switch between them at low cost.

The *settlementR0* captures when adoption becomes self-sustaining. Once the system crosses its bifurcation threshold — once enough infrastructure, knowledge, and network effects exist to support offshore access — prohibition at the national level cannot push the system back below threshold. It can only change the geography of participation (IMF2023).

This has direct policy implications. If the goal is tax revenue, the TDS is counterproductive: it drives the tax base offshore, reducing total collections below what a lower rate applied to a larger domestic base would yield. If the goal is consumer protection, driving users to unregulated offshore platforms achieves the opposite. If the goal is financial stability monitoring, losing visibility into 90% of domestic activity makes the system *less* observable, not more.

The productive policy response is not to increase domestic friction but to reduce it — to make the regulated domestic channel attractive enough that users prefer it to the unregulated offshore alternative. India's experiment, unintentionally, demonstrated this principle with unusual clarity.

The 86% headline looked like success. The 72% displacement revealed it as a lesson in the limits of national prohibition in a globally networked system.

References