

The Great Guano Boom — and Bust¹

Guano Boom Revives Peru's Economy

As energy prices rise, the usual cry for government intervention in energy markets is again being heard. People promoting these policies advocate both government manipulation of markets for oil, coal, natural gas, and other commodities, and also government control over unrefined resources, such as oil fields and mineral veins, like those in the Arctic Natural Wildlife Refuge.

There is a firm belief that governments are superior to private businesses and markets at managing the use of natural resources. Although many examples in recent history show the folly of this belief, Peru's experience with a vicious boom and bust in the 19th century provides a particularly compelling illustration of the wasteful, harmful results that come from delegating the use of precious resources to the government.

In 1839, Peru was a devastated nation. Debt and destruction in the aftermath of the War of Independence (1822–1825), a crushing debt default in 1826, and the War of the Confederation (1836–1839, when it fought alongside Bolivia, against Chile and Argentina), and several hundred years as a Spanish colony had left its economy small and craft dominated, without even a banking system.

But in the early 1840s, explorers made an exciting discovery. Due to a lack of rainfall and the unique variety of birds nesting there, Peru's Chincha Islands (a group of small islands just off the southern coast of Peru) were found to be covered by mountains of bird excrement several hundred feet high in places, which had accumulated over many centuries. They were thought to be the most enormous guano deposits in the world — and of a particularly high quality — at a time when guano was used worldwide for fertilizer. So, out of nowhere, a valuable natural resource was found, one which promised — if managed properly — to produce wealth that could possibly usher in a new era of development and progress.

The opportunity was, unsurprisingly, immediately obvious to Peruvian politicians. In postcolonial Lima (the capital of Peru), in fact, the prevailing attitude was that politics was a business and that, upon capturing public office a just profit was in order. Therefore, it wasn't long after the discovery of the guano deposits that the Peruvian government took control of the islands, supposedly to ensure national integration and a productive use of the guano. The implicit assumption was that the state, would act as a custodian of the resource for its people. The Peruvian state regarded its fertilizer monopoly as a public good and development resource a bonanza that could be harnessed to a wider and longer modernization and development.

They appointed a politician, Francisco de Quiroz, to handle the initial extraction and shipping operations. Over the next few years, as the economic potential of the fertilizer fields became apparent,

¹ Adapted with modifications, from an article with the same title, from mises.org website.

the government started to strengthen its position over the contractors, expanding their control to include setting prices and providing prisoners for guano mining.

One of the first things the Peruvian government did with its fertilizer revenue was pay off its war debts; by 1853, in fact — against all odds — it found itself briefly, enviably, debt free. It immediately, however, began taking on new debt, pledging the proceeds of future guano sales against them.

Although the rhetoric of economic liberalism (free markets) often resounded, for appearance' sake, in official publications and pronouncements, in practice the state-run business of mining and exporting manure matter was sheer mercantilism: nationalization of a resource for the benefit of the government while usually benefitting only people and groups favored by the state. Over the next few decades, the state's expenditures expanded in tandem with guano income. Military expenditures and debt service accounted for large portions of the increase. Control over guano revenues permitted the government to pay off supporters, and to finance a large military. The guano revenues were a prize, increasing the private gains to those parties who were able to seize control of the state.

Against a seamy backdrop of graft, power broking, and arrogance in the political halls and smoky back rooms of social clubs in Lima, existing elites were strengthened through government policies. The number of government pensions exploded. It is estimated that the government (and its contractors) managed to retain an impressive 71 percent of final sales of the exported fertilizer. Contractors were later shown to have habitually inflated the costs and defrauded the government to increase their profits.

Predictably, virtually all of the projects rising out of the guano profits were concentrated in the capital city of Lima and surrounding areas. The federal budget tripled by 1860, and in a nation where most of the population still lived in poverty meticulously appointed homes were being built as fashions from both London and Paris appeared in the streets of Lima, the city with stately museums, parks, plazas, academies, boulevards, mansions, and theaters, not to mention the latest in potable water systems and Italian opera. Imports — everything from workaday textiles to lavish accessories and vintage French wines arrived in the city.

Mismanagement by the Government of Guano Wealth

Plans were drawn up for everything from state-sponsored shipyards to agroindustries, but some Peruvians were aware that the bounty could not last indefinitely. In 1862, intellectual and businessman Manuel Pardo published *Estudios Sobre la Provincia de Jauja* (Studies of the Province of Jauja) pointing out that over the past 15 years the Chincha guano fields had generated some \$150 million of revenue, but that the wealth was "already lost." He projected that Peru had perhaps 10 or 12 years of extractable deposits remaining before "resource bankruptcy" would occur. However, rather than calling for financial responsibility (let alone competitive market forces), Pardo advocated doubling down: greater, longer-term state projects. Specifically, he advocated undertaking the space program of the 19th century: state-built and -subsidized railroads.

Railroads, the theory went, were the threshold to economic growth and first-world industrial status; moreover, it was said, they would create their own markets. And how could trading partners in Europe take Peru seriously — as more than a source of endless tons of bird excrement — with mule trains still the primary means of travelling over the Andes?

Rumors of an unrestrained spending binge resonated globally, and by the mid-1860s engineers, would-be industrialists, and hawkers from around the world were beating a path to Peru, feverishly pursuing state officials to get in on the construction boom. The railroad mania took on explosive proportions in 1868 with the arrival of the undisputed king of railroad promoters in his day, Henry Meiggs. Governmental expenditures on railroads were monumental: after undertaking two massive bond sales in London in 1870 and 1872, railway projects came to consume 57 percent of the entire state budget, taking up the entire guano receipt in debt service *alone*.

The final phase of the guano boom may well have been reached in 1871, when Meiggs hailed the initial running of one railroad as a "battering-ram of modern civilization, whose whistle will awaken the native race from slumber" and bring "social revolution."

All the while, though, the mounds of guano off the Peruvian coast were shrinking. The problem of approaching exhaustion was not immediate in the 'fifties and 'sixties, and administrations in Lima — short-lived, opportunistic, and, to varying degrees, corrupt — were not the sort that could be expected to take very much account of the country's future economic welfare.

In 1871, Peru's leader, Colonel Jose Balta, reflected admiringly on the accomplishments of the state's guano-borne projects, crediting them with giving life to "the happy dream of the people ... mobilizing work, stemming joblessness, creating industry, engendering the spirit of business, renewing credit, and being the root of public tranquility."

These would prove famous last words, as Peru's debt-saddled economy was suddenly upended by the Panic of 1873. The European crisis hammered the Peruvian economy in two ways: first, because the Peruvian government had gradually (and with disregard for competitive substitutions) increased guano prices so much, that stricken farmers around the world turned to other, lower-priced fertilizers; demand for shipments from the Chincha Islands dried up. Second, with London money and commodity markets

frozen, lenders had little appetite for extending additional credit to once-again-debt-encumbered Peru. In response to the economic crisis, in 1875, Pardo — now president of Peru — ordered the military to seize the southern nitrate fields on the border with Chile in an effort to offset the decline of the guano business with another source of fertilizer revenues. Even though the state hastily seized land and facilities from private investors, it was too little too late. Work on the railroad projects halted in August of 1875. Over the next few months, a variety of other government projects defaulted amid a widening financial contagion culminating in January 1876, as Peru defaulted on its sovereign debt for the second time in a century: mountains of loans from European banks in stark contrast with shrinking piles of bird droppings.

Visitor Alexander Duffield described post-guano-boom Peru in 1877:

The land ... is not cultivated ... water-courses and systems of irrigation are all broken up ... it is a wonder the inhabitants [of Lima] have survived, and that those who were not killed in last year's revolution have not been carried off by a plague ... idleness ... is the order of the day.

In addition, he found that roads were in "ruins" with Peruvian citizens "liv[ing] from hand to mouth." Lawsuits and litigation were the order of the day: "going to law is not only an infamous passion ... it is a means of living." But the "happy dream of the people" envisioned by Balta was a myth: between 1866 and 1877 alone, prices had nearly doubled, and between 1857 and 1876, the unemployment rate rose from 16.1 to 23.4 percent.

Duffield wryly summarized the period as not so much an era of guano as an "Age of Manure."

The nightmare was not over. At the end of 1878, with banks collapsing and government expenditures more than twice its revenue, the printing presses were put to work. Huge amounts of currency issued forth, and shortly thereafter hyperinflation struck. In a ten-day period, it was estimated that there were 60,000,000 paper *sols* (the *sol* was the Peruvian currency, pegged originally at just over 1 *sol* per US dollar) put into circulation ... a sum equivalent to 2,000,000 of the former *sols*. Silver-backed *sols* disappeared completely from circulation and no transactions were being made in paper money with business almost at a standstill.

Having had unlimited access to London credit but now saddled with Latin America's largest foreign debt, Peru was unprepared for the crash. It was riches to rags, with nothing to show in persisting economic advance.

Unrest swept through the nation, with some 36 attempted uprisings in four years. But soon things got even worse, as Chile responded to Pardo's seizure of the nitrate fields with an invasion of Peru in 1879. Militarily defeated by 1883 and burdened with a wrecked currency, massive debt, and the aftermath of war, Peru would take decades to recover.

How Could This Have Happened?

In hindsight, guano proved a great lost opportunity for Peruvian development as state investments stymied possibilities for national entrepreneurs, diversification, and gains in domestic productivity. In roughly four decades, under the supervision and at the direction of the government, between 11 and 12 million tons of excrement fertilizer were shipped, earning \$500 million in revenues. (Another estimate holds the number at more than 20 million tons shipped and \$2 billion in revenue.) But in the end, 53 percent of all of the guano revenue was spent on expanding the bureaucracy and the military, 12 percent on direct transfer payments, and 7 percent on reducing tributary impositions. Twenty percent had been spent on railroads.

Although most of the government expenditures were clearly malinvestment, railroad investments were the most flagrant. By the time Peru fully recovered, the automotive truck was an efficient alternative for moving goods. Ghost towns stood along many of the planned rail routes, occupied here and there by unemployed railroad workers squatting in huts. In addition, as Peruvian railroads defaulted on their obligations and half-built rail lines lay rusting in the jungles, the same promoters who had mocked mule caravans came to blame competition from them for the business failures.

It is unsurprising and conspicuously telling to consider that one of the few government projects successfully completed and serving the people of Peru at the end of the guano boom was a penitentiary.

The ultimate failure of the guano boom to establish lasting economic prosperity has been a topic of debate in economic circles for over a century: specifically, how is it that an easily extractable, globally sought-after natural resource not only didn't lead to prosperity but in fact seemed to lead to economic implosion?

Guano mining and exporting, of course, didn't lead to the collapse; the Peruvian government's improvident fiscal and monetary policies did. One explanation holds that a "poor selection of investment projects" accounts for the bust and collapse. While this is undoubtedly true, it suggests that governments might, in other circumstances, be capable of making good "investment choices." As Mises wrote,

The conduct of government affairs is as different from the industrial processes as is prosecuting, convicting, and sentencing a murderer from the growing of corn or the manufacturing of shoes. Government efficiency and industrial efficiency are entirely different things.... No reform could transform a public office into a sort of private enterprise. A government is not a profit-seeking enterprise.

How, then, might the Peruvian state have successfully managed the offshore fertilizer abundance? Quite simply, by not getting in the way: the government would best have simply notified citizens — among them, would-be entrepreneurs — of the guano wealth sitting offshore. Sufficiently inspired homesteaders and wildcatters would have organized, staked out claims, and worked them at their own risk. Less desirably — but still far preferable to what actually occurred — the government might have auctioned off the guano heaps to individual entrepreneurs and corporations, domestic and foreign, allowing competition on the basis of expertise, efficiency, and price.

And from there, what? There are as many possibilities as the market offers. Some entrepreneurs would have mined and exported the guano; others might have used the fertilizer to begin agricultural projects in Peru, or elsewhere. And some of those exporting the guano might have done so in exchange for, or to fund the purchase of other raw materials or machines for starting other businesses. Still others might have warehoused their guano for future sale or used portions of it to experiment with creating alternative fertilizers, explosives, or building materials.

A land speculator might have purchased, rented, or mortgaged land claims, planning to build homes or other structures where and when the guano was cleared. An especially well-funded entity might have come along and purchased most or all of the initial claimant's stakes, potentially financing other entrepreneurial efforts while it attempted to wrest profits from the guano-covered islands via economies of scale. The establishment of mining-supply stores, provision dealers, and other such enterprises is also likely. All of these uses had potential to bring substantial and lasting benefit to Peru and its people. Selling the guano outright, after all, was only one use of the deposits, albeit the most obvious. But alternate uses are only exhaustively explored through numerous independent actors competing via markets; for that reason, resources subject to political authority tend to be unproductively utilized, if not outright destroyed.