

Brazil's Journey Against Illegal Mining

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Brazil faces widespread illegal gold mining, particularly in the Amazon rainforest, with profound environmental, economic, and social implications, as half of the country's gold output is suspected of having dubious origin. This paper delves into how regulations have shaped Brazil's gold industry over the years and fostered illegality. It also brings to light recent advancements in this field, such as adopting electronic invoices for the wildcat gold trade and suspending the 'good faith' presumption applied to wildcat gold transactions, which previously undermined accountability. Despite these significant strides, the paper emphasizes the ongoing need for measures to regulate the gold industry, bolster law enforcement, and mitigate environmental and social damage.

Keywords: Illegal mining; gold; Amazon rainforest; Brazil; regulation.

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Brazil ranks as the 14th largest gold producer globally (WORLD GOLD COUNCIL, 2023), with gold being the second most significant metallic mineral produced in the country, following iron ore, which accounts for 80% of the industry (BRAZILIAN NATIONAL MINING AGENCY, 2022). The country boasts an annual gold output of approximately 90-100 metric tons, essentially targeting international markets. In 2022, gold exports reached 96.3 metric tons, at US\$4.9 billion. Key export destinations that year included Canada (34%), the United Kingdom (17%), India (16%), Switzerland (13%), the United Arab Emirates (9%), Italy (4%), and Belgium (4%) (COMEX STAT, 2024).

A concerning fact obscured in Brazil's official gold statistics is that half of the country's gold output is suspected to come from dubious — potentially illegal — origins. From 2015 to 2021, Brazil traded 282 tons of gold with evidence of illegality, primarily from the Amazon region (INSTITUTO ESCOLHAS, 2022). In 2021 alone, the output of gold potentially from illegal mining amounted to up to 53 metric tons, equivalent to approximately US\$2.5 billion in exports. This substantial figure, representing a high income for illegal miners, exposes the deep-seated influence of gold from illegal mining on Brazil's economic and political landscape and the magnitude of the problem both domestically and for international markets.

Another salient characteristic of the Brazilian gold industry is the fact that most mining operations are located in the Amazon region and there has been a substantial increase in wildcat mining operations. The Amazon — the most biodiverse forest on earth — is where an intense gold rush is taking place. The environmental consequences of gold mining activities, such as deforestation, biodiversity loss, and pollution of water bodies, are therefore especially severe and worsened due to the lack of adequate oversight.

Currently, 98% of the area occupied by wildcat gold mining sites is in the Amazon region. In the past decade alone, this area increased in size by 2.7 times. The result is that, nowadays, the wildcat gold mining area in the Amazon is

larger than the whole area occupied by industrial mining in Brazil for all minerals combined (PROJECT MAPBIOMAS, 2023)¹.

While the Amazon region is a mosaic of protected areas, including Indigenous territories and environmental conservation areas, where mining is forbidden, the quest for gold continues illegally in these areas, operating outside the bounds of the law. Evidence of this is that the recent increase in wildcat gold mining areas in the Amazon was more intense within Indigenous territories than elsewhere. These areas have increased by 6.5-fold in the past decade (PROJECT MAPBIOMAS, 2023) throwing a spotlight on the impacts on Indigenous livelihoods, as communities have been exposed to diseases and have had their water and food supplies disturbed by the presence of illegal miners.

This situation is worsened by the prevalent and indiscriminate use of mercury — a highly toxic metal that separates gold from the rest of the extracted materials, acting as a magnetic agent for gold particles. As evidenced by several studies, the use of mercury in wildcat gold mining operations has contaminated rivers, fish, and human populations.

Given its scale, which has recently reached unprecedented levels, ending illegal mining and its grave environmental and social impacts is a complex task. Progress is possible, nevertheless, by adopting measures to better regulate and oversee mining operations and the gold trade. These measures could increase the financial risk of conducting illegal operations to a point where they would not be as profitable and, at the same time, end the unfair competition they represent for lawful activities.

This paper delves into this discussion, exposing the multifaceted challenges of illegal gold mining in Brazil. It highlights recent advancements from a regulatory perspective and explores the still-needed measures that could reshape the practices adopted in the Brazilian gold industry with positive effects on the environment, society, and the economy.

¹The author uses the term 'Amazon region' to refer to the concept of 'Legal Amazon', which encompasses the Brazilian states of Acre, Amapá, Amazonas, Mato Grosso, Pará, Rondônia, Roraima, Tocantins, and Maranhão. According to the Brazilian Institute of Geography and Statistics (IBGE), the latter is only partially considered part of the Legal Amazon.

Brazil's new gold rush

The search for gold in Brazil dates back to colonial times. More recently, during the 1980s and early 1990s, images traveled the world portraying one of the most significant gold rushes in the 20th century. Thousands of people were hand mining in Serra Pelada, considered the biggest open pit in the world at the time, in a village east of the state of Pará, in the heart of the Amazon rainforest.

The Brazilian government established a set of measures and rules to control the large amounts of gold coming out daily from the area. To control the flow of miners, the government fenced off the entire Serra Pelada area. They also opened a national bank branch (Caixa Econômica Federal) to buy gold directly from miners and keep it under government control.

In the last decade, a new gold rush started again in the Amazon region. Looking back to data from as late as 1992, when the Serra Pelada mining pit was closed, there was an increase in gold mining areas in the country, but nothing like what happened in the past decade. From 1992 to 2002, the area covered by gold mining activities in the country increased by 17%. From 2002 to 2012, there was a 23% increase. Between 2012 and 2022, the gold mining area skyrocketed — it increasing by 161%, reaching 235,000 hectares (Table 01).

While the area occupied by industrial gold mining activities also increased in the country (up 35% from 2012 to 2022), the gold rush of the last decade is clearly explained by wildcat gold mining operations, which expanded their area by 173% — from 82,000 hectares in 2012 to 224,000 hectares in 2022. Also, 98% of the area occupied by wildcat gold mining is located in the Amazon region (Table 01).

Official gold output data also show the new gold rush taking place in Amazon, although more accurate records have only become available in recent years. From 2018 to 2022, the gold output from wildcat mines in the Amazon grew from 16 to 31 tons. In 2018, it represented 22% of the gold market; in 2022, the share was up to 34%.

In addition to the substantial expansion of gold mining areas in Brazil over the past decade, particularly in the Amazon region, a concerning aspect of the country's gold industry is the alarming prevalence of dubious and potentially illegal origins for half of the Brazilian gold production.

The situation is dramatic. From 2015 to 2021, Brazil traded 282 tons of gold with evidence of illegality, primarily from the Amazon region (Table 02) (INSTITUTO ESCOLHAS, 2022). This disturbing trend, coupled with the sheer volumes of gold involved, exposes a persistent pattern of illegality year after year, indicating that the issue of illegal gold mining is deeply ingrained in Brazil.

Table 01. Area occupied by gold mining in Brazil and the Amazon region (hectares and % of total)

	1992		2002		2012		2022	
	hectares	%	hectares	%	hectares	%	hectares	%
Total gold mining area in Brazil	62,685	100	73,091	100	89,950	100	234,921	100
Wildcat gold mining area in the Amazon	58,892	94	67,855	93	81,542	91	220,004	94
Industrial gold mining area in the Amazon	2,967	5	3,574	5	5,181	6	6,757	3

Source: Elaborated by the author using data from PROJECT MAPBIOMAS, 2023.

Table 02. Potentially illegally mined gold (kilograms and % of total)

	2015	2016	2017	2018	2019	2020	2021
Total gold output	79,21003	86,670	75,91008	71,75002	82,08003	91,95003	97,15008
Potentially illegally mined gold	32,853	44,063	34,400	33,743	41,537	42,395	52,806
% of potentially illegally mined gold	41%	51%	45%	47%	51%	46%	54%

Source: Elaborated by the author with data from INSTITUTO ESCOLHAS, 2022.

Are regulations curbing or fostering illegal gold mining?

Examining the regulations governing the wildcat gold industry is key to better understand the illegal mining problem. Over the years, regulations have not only failed to curb illicit activities but have, in fact, inadvertently incentivized the illegal market and shaped its dynamics. In that regard, it is important to discuss two pieces of legislation: 01. Law N^o 7,766 of 1989 and 02. Law N^o 12,844 of 2013.

Law N^o 7,766: gold as a financial asset

Law N^o 7,766 of May 11th, 1989, defines when gold, a mineral product, must be treated as a financial asset and how it must be taxed. It has enormous implications for the gold market structure. And has helped shape the prominent role of financial institutions in the wildcat gold industry.

Law N^o 7,766 originated from a bill submitted by President José Sarney (PMDB)² to the Brazilian Congress on February 17th, 1989. It aimed to regulate gold as a financial asset and its tax treatment, as a new tax system would be in place in the country, as defined in the then recently approved Federal Constitution. Bill 1,516 initially did not mention wildcat gold mining; it solely defined that all the gold targeting the financial market or the country's exchange rate policy would be treated as a financial asset and subject to a financial transaction tax.

Soon after the bill was introduced, on February 23rd, 1989, a group of party leaders from very different political affiliations requested a fast-track process, which was approved³. On February 24th, Congressman Francisco Dornelles (PFL-RJ), designated as the rapporteur for Bill 1,516, voted for its approval. However, other congress members presented 17 amendments to the draft, seven of which were eventually accepted⁴.

Overall, the accepted amendments aimed to clarify that gold as a financial asset would be subject solely to the financial transaction tax (IOF in Portuguese) and no other tax. Two of them, however — one presented by Congressmen Asdrubal Bentes (PMDB-PA) and Ibsen Pinheiro (PMDB-RS) and another by Congressmen Vivaldo Barbosa (PDT-RJ), Fernando Sant'Anna (PCB-BA), and Plínio de Arruda Sampaio (PT-SP), introduced that wildcat mining cooperatives would be authorized by the Central Bank of Brazil to conduct gold operations. To buy it from wildcat mines and sell it to the Central Bank. The introduction of this amendment was intended to avoid tax evasion and illegal mining.

On March 2nd, 1989, the Chamber of Deputies (Brazil's lower house of Congress) approved a new draft for Bill 1,516, including the agreed amendments

²Official information about the legislative procedure and approval is available at <<https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=193098>>

³The request was made by Congressman Ibsen Pinheiro (PMDB-RS), Congressman Euclides Scalco (PSDB-PR), Congressman Gerson Peres (PDS-P), Congressman Gastone Righi (PTB-SP), Congressman Plínio de Arruda Sampaio (PT-SP), Congressman Adolfo Oliveira (PL-RJ), Congressman José Lourenço (PFL-BA), Congressman Fernando Sant'Anna (PCB-BA), and Congressman Arnaldo Faria de Sá (PJ-SP).

⁴Amendments two, 10, 13, and 15, introduced by Congressmen Ibsen Pinheiro (PMDB-RS) and Gabriel Guerreiro (PMDB-PA), aimed to alter the wording to clarify that gold as a financial asset would only be subject to IOF and to detail tax collection. Eventually, amendment 15 was vetoed by President José Sarney, as it established that the Central Bank would have the power to define gold transactions carried out before the enactment of the new law as a financial asset. Another amendment, introduced by Congressmen Vivaldo Barbosa (PDT-RJ) and Genebaldo Correia (PMDB-BA), addressed gold seizures.

and other changes in the wording, such as detailing that gold coming from wildcat mining areas, as long as destined for the financial market, would be considered as a financial asset. After being submitted to and passed by the Senate, the bill became Law 7,766 on May 11th, 1989.

The practical outcome of this law is that gold, a mineral product, has two different tax treatments and two different rules for trade in Brazil, which is not the case for any other minerals in the country.

On the one hand, gold intended for the financial market is treated as a financial asset and must be traded through a financial institution accredited by the Central Bank of Brazil, with transactions including a 1% IOF tax. On the other hand, when gold is intended for other uses or exports, it is treated as any other mineral — it can be directly traded with or exported to any buyer, and is subject to the Circulation of Goods and Services Tax (ICMS in Portuguese), which has different rates depending on the state.

Also, when the law defined that the Central Bank of Brazil could authorize wildcat mining cooperatives to conduct gold operations — buying it from miners and selling it to the Central Bank or a licensed financial institution —, it shaped wildcat gold market dynamics and gave it a financial-asset character. Moreover, paying the 1% financial transaction tax was more advantageous than paying ICMS.

This was also a great business opportunity for financial institutions. Many made a fortune trading gold from wildcat mines, which led to further legislative outcomes, specifically Law N^o 12,844 of 2013.

Law N^o 12,844: the good faith presumption

Law N^o 12,844 of July 19th, 2013, was an excellent incentive for the wildcat gold mining industry, which was investing in machinery and expanding operations. It created specific rules for the trade of gold from wildcat mining and a system that presumed the legality of the gold and the good faith of transactions — something that eventually changed after a Brazilian Supreme Court ruling.

The law originated from President Dilma Rousseff's Provisional Measure No. 610 (Medida Provisória or MP in Portuguese) — a legal instrument used by the

President to enact urgent and temporary legally binding measures⁵. The draft was introduced to the Brazilian Congress on April 4th, 2013⁶, and was unrelated to the gold market. On the contrary, it was a piece of legislation approving aid payments to family farmers who had lost their crops and were affected by droughts.

MP 610 was the first assessed by a committee formed by senators and federal representatives. Senator Eunício Oliveira (PMDB-CE) was appointed as the rapporteur, and Congressman Paulão (PT-AL) was appointed as the reviewer for the rapporteur. MP 610 received 119 amendments to the draft from other senators and representatives. Senator Eunício Oliveira issued his official opinion, presenting a new draft as Bill 17/2013 (PLV 17/2013) that was then voted on.

While MP 610 originally had 11 articles, Bill 17/2013 had 46 articles. Senator Eunício Oliveira (PMDB-CE) accepted most of the edits to the draft — only 34 amendments were not accepted — and included other broad modifications, introducing articles from old provisional measures that were no longer in effect. For instance, he expanded the reach of the special tax refund program to exporting companies, included different sectors in the payroll tax reduction policy, etc. Among these edits, he included articles regulating the gold trade from wildcat mining, arguing that the industry needed more legal certainty.

Regarding wildcat gold mining, the bill (Articles 37 to 42) authorized anyone involved in the wildcat mining industry, including miners, airplane pilots, supply merchants, oil suppliers, etc, to move and trade gold. It also defined wildcat mining cooperatives and financial institutions as gold buyers, making the financial asset character of gold from wildcat mining more explicit.

It also established that gold sellers would only need to provide their personal information and inform the origin of the gold — without having to provide legal evidence of it. On the other hand, buyers would only need to keep these records

⁵A Provisional Measure (MP) is a legal tool the President can use in urgent and important situations. While it comes into force immediately after it is enacted, the Chamber of Deputies and the Senate to remain in effect permanently must then pass it within 120 days. Otherwise, it expires and is no longer in effect.

⁶Official information about the legislative procedure and approval is available at <<https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=570604>>

for ten years, and in doing so, their good faith and the legal origins of the gold would be presumed.

The Chamber of Deputies voted on the bill on July 10th, 2023. Some representatives requested that it be removed from the agenda (Congressman Ivan Valente, PSOL leader) or voted in parts (Congressman Sarney Filho, PV leader), but their requests were not accepted.

The floor of the lower chamber of Congress voted on and passed most of the bill, except for some items, which were then voted on separately. One of the items included the articles addressing wildcat gold mining, which was voted on separately upon a request by the PT caucus. The vote was conducted by Congressmen Arthur Lira (PP-AL) and Odair Cunha (PT-MG). The draft was not subjected to further alterations, and the bill was then sent to the Senate, which passed it on July 11th, 2013. After presidential enactment, the bill became Law N^o 12,844 on July 19th, 2013.

Interestingly, Articles 37 to 42, included in Bill 17/2013 by Senator Eunício Oliveira (PMDB-CE), were initially drafted and introduced by Congressman Odair Cunha (PT-MG) to accommodate the interests of financial institutions dedicated to buying gold, as the congressman later explained (SADI, 2023).

One year earlier, in 2012, Odair Cunha (PT-MG) had already introduced these articles as an amendment to MP 601⁷. But as the Brazilian Congress did not pass this MP, it did not become law and eventually expired. The congressman therefore introduced the same articles to be included in Bill 17/2013, which was accepted by Senator Eunício Oliveira (PMDB-CE), the rapporteur for the bill, and then passed.

Indeed, Law N^o 12,844 led to significant outcomes for the financial institutions dedicated to trading gold, which were behind the design of this legislation. First, the law defined mining cooperatives and financial institutions as buyers of gold from wildcat mining. As Law N^o 7,766 of 1989 established that cooperatives can conduct operations considering gold as a financial asset — to buy

⁷The amendment presented by the Congressman is available at <https://www.camara.leg.br/proposicoesWeb/prop_mostrarintegra?codteor=1089433&filename=EMC%2052/2013%20MPV%2060112%20=%3E%20MPV%20601/2012>.

it and then sell it to financial institutions —, at the end of the day, gold from wildcat mining can eventually enter the market through financial institutions.

Second, Law N° 12,844 established that anyone involved in the wildcat gold mining business, such as aircraft pilots, fuel sellers, mining staff, etc, can sell gold from wildcat mining. This means that not only the individuals entitled to a mining permit, but anyone can sell the gold output from that area. This is a significant protection for gold sellers and reflects the fact that gold circulates as a parallel payment method in wildcat mining areas in Brazil. Mining staffs get paid in gold and often pay for their provisions in gold. At the end of the chain, all the people involved in the local trade system sell gold to financial institutions.

The consequence of this is that when gold reaches financial institutions, it is almost impossible to know where it came from. If the gold is not sold directly from the mining site to a financial institution, but circulates from hand to hand, it is difficult to track its origin and, ultimately, to know if it comes from a legal or illegal mining area.

Because of this, Law N° 12,844 also established that, to sell gold, all individuals must fill out a form at the financial institution they are trading with, indicating their data, the quantity of gold they are selling, and from which wildcat mining permit it comes. Forms can be filed on paper and filled out by hand; any mining permit can be reported as the supposed origin of gold, as there are no documents or checks on the integrity of the information. That is precisely when gold from illegal mining can enter the formal market in a fraud known as 'gold laundering', when gold from illegal mining is sold by informing a legit mining permit number in the forms.

To relieve financial institutions of the responsibility for buying illegal gold, Law N° 12,844 also established that, if they keep paper forms, all transactions are considered done 'in good faith', and the gold is considered legal. Thus, financial institutions' responsibility is reduced to keeping paper forms, making it more challenging to implicate them in illegal gold transactions.

This law resulted in two outcomes. First, by authorizing anyone to sell gold, it facilitated the trade and created a chain of multiple intermediaries,

making gold origin controls nearly impossible, therefore incentivizing the market for gold from illegal mining. Second, it drove responsibility away from gold buyers — financial institutions —, making it a profitable and low-risk business, also incentivizing illegal gold mining and trade.

In other words, Law N^o 12,844 established the perfect ground for boosting illegal wildcat gold mining operations. It is not a coincidence that this law was published precisely when a new gold rush started in the Amazon region.

The day after the ‘Good Faith’ law

As previously mentioned, wildcat mining areas increased significantly from 2012 onwards, as the industry was benefiting from the protections Law N^o 12,844 managed to introduce. Not coincidentally that was also the same period when wildcat gold miners started to intensify their use of heavy machinery, such as excavators.

While miners used rudimentary tools to mine an area for an entire month, they now need no more than a week using excavators. Far from being an artisanal and small-scale activity, wildcat gold mining reached an industrial level in Brazil, with revenues of up to US\$1.5 million per year per site (INSTITUTO ESCOLHAS, 2023).

This situation remained under the radar and unexposed for many years. However, almost a decade after Law N^o 12,844 was enacted, more precisely under the Jair Bolsonaro (PL) administration (2019-2022), reports of illegal gold mining and trade gained significant media attention. This can be explained by the fact that 01. wildcat gold mining areas were skyrocketing in the Amazon region, and their impact was visible; 02. data revealed the tremendous size of the problem, showing that gold from potentially illegal operations accounted for half of the market.

Despite that, the Jair Bolsonaro administration showed no inclination to implement new controls or strengthen oversight to fight illegal gold mining operations. On the contrary, on multiple occasions, the then-president personally expressed support for wildcat gold mining without acknowledging the issue of illegality and its impacts. This support was evident in statements endorsing miners (G1, 2019) and meetings with industry leaders at the government headquarters (BETIM, 2019).

This becomes clear when in 2020 President Jair Bolsonaro submitted Bill 191 to the Brazilian Congress, which aimed to authorize mining operations on Indigenous lands, making this project one of his legislative priorities. This occurred despite the disagreement of the Indigenous movement and the absence of consultation with Indigenous peoples, as established in the Brazilian Federal Constitution (Article 231, Paragraph 03) and International Labor Organization (ILO) Convention 169⁸.

Moreover, on February 11th, 2022, President Bolsonaro issued Decree N^o 10,966, establishing the so-called Program for the Development of Artisanal and Small-Scale Mining to promote wildcat mining in the Amazon region. Strikingly, no actions were taken to combat illegality in the industry, nor was the problem recognized.

To address the illegal gold mining problem, Senator Fabiano Contarato (PT-ES) introduced Senate Bill 836/2021 on March 11th, 2021. The bill set forth electronic invoices for the wildcat gold trade and a minimum set of documents to attest to the legal origin of the gold. Similarly, then-Congresswoman Joenia Wapichana (REDE-RR)⁹ presented Bill 2,159 to the Chamber of Deputies on August 22nd, 2022. The bill established a complete gold traceability mechanism to combat illegal mining, including mandatory forms to track every gold transaction from mining sites to exports¹⁰. These bills have not progressed immediately but were the basis for solid discussions on gold traceability and controls later in 2023.

New administration, new regulations

In October 2022, Luiz Inácio Lula da Silva (PT) won the presidential election against Jair Bolsonaro (PL), and this has reshaped the agenda of combating illegal gold mining. President Lula took office on January 1st, 2023, and revoked

⁸As Bill 191/2020 was proposed by the executive branch, in March 2023, under the Luiz Inácio Lula da Silva administration, the executive branch filed a request to the Chamber of Deputies to withdraw the bill. The withdrawal request was approved and officially submitted in May, 2023.

⁹On February 03, 2023, Joenia Wapichana started to act as the President of the Brazilian Indigenous Peoples' Agency (FUNAI in Portuguese).

¹⁰Bill 2,159/2022 provided the findings and recommendations from research that proposed a step-by-step gold traceability system that could provide more adequate controls and oversight: INSTITUTO ESCOLHAS (2022). Blockchain, Traceability, and Monitoring for Brazilian Gold. Available at <<https://escolhas.org/wp-content/uploads/Blockchain-traceability-and-monitoring-for-Brazilian-gold.pdf>>. Accessed on March 06, 2024.

Bolsonaro's Decree N° 10,966, which had created the program to foster small-scale mining in the Amazon region¹¹.

A few weeks later, an article written by a Brazilian outlet, Sumaúma (MACHADO et al., 2023), and published on January 20th, 2023, shocked the world as it showed images of Yanomamis starving, barely surviving on their deathbed. The leading cause of their suffering was the disturbance illegal miners had brought to the Yanomami Indigenous territory. The consequences of illegal mining after that gained greater media attention.

It was not the first time the Yanomami people fought illegal miners. In the 1990s, the federal government conducted a major operation to force invaders out of their territory. However, from 2012 on, the problem started to grow again and skyrocketed from 2016 on. In 2012, illegal mining areas in the Yanomami territory occupied 24 hectares, and in 2022, they reached 3,278 hectares (PROJECT MAPBIOMAS, 2023). The Yanomami tragedy also brought to light the situation endured in other Indigenous territories. Under Bolsonaro, the area of illegal mining in Indigenous territories grew by 2.7-fold, from 9,519 hectares in 2018 to 25,243 hectares in 2022 (PROJECT MAPBIOMAS, 2023).

On January 21st, 2023, Lula himself and government officials arrived in the state of Roraima to assess the situation of the Yanomamis (VILELA, 2023). Soon after, on January 26th, 2023, the Brazilian government created a working group to establish measures to combat criminal organizations and illegal mining in Indigenous territories (MINISTÉRIO DA JUSTIÇA E SEGURANÇA PÚBLICA, 2023). The Ministry of Justice and Public Security led the working group under the coordination of its National Secretary for the Access to Justice. The working group also included the National Secretary of Public Security, the Federal Police, the Federal Highway Police, the Ministry of Indigenous Peoples, the Ministry of Mines and Energy, the Ministry of Defense, the Ministry of Human Rights and Citizenship, and the Ministry of Finance, with the collaboration of other public authorities and entities.

¹¹Decree N° 10,966 of February 11, 2022, was revoked by Decree N° 11,369 of January 01, 2023.

The working group discussed regulatory changes to combat illegal gold mining and the possibility of implementing them through a Provisional Measure, as it would be immediately legally enforceable¹². The discussion was based on the previously mentioned Bill 2159/2022, presented by then-congresswoman Joenia Wapichana.

Amid these efforts, on March 29th, 2023, the Brazilian Revenue Service published a new rule adopting electronic invoices for gold from wildcat mining (DIÁRIO OFICIAL DA UNIÃO, 2023). It established that, as of July 2023, all gold trade from wildcat mines must be covered by it¹³. This simple step was essential to start controlling the market.

Electronic invoices are widely used in Brazil for all sorts of transactions and sectors, from small shops to big industries, including big gold mining companies. But despite the high commercial value of gold and the infamous cases of fraud, all gold trade from wildcat mining was solely covered through handwritten paper invoices, which made fraud easy and authorities' efforts to oversee transactions nearly impossible.

In the following days, on April 4th, 2023, the Brazilian Supreme Court lifted the 'good faith' presumption from Law N° 12,844 of 2013, which governed the gold trade from wildcat mining (SUPREMO TRIBUNAL FEDERAL, 2023). As previously explained, this was the main mechanism protecting and exempting gold buyers from responsibility for the illegal gold trade.

Given its effects that hindered adequate controls over the origin of gold, the unconstitutionality of the presumption of good faith was brought before the Supreme Court in November 2022. Two political parties — the Brazilian Socialist Party (PSB or 'Partido Socialista Brasileiro' in Portuguese) and the Sustainability Network Party (REDE or 'Partido Rede Sustentabilidade' in Portuguese), based on the findings of INSTITUTO ESCOLHAS (2022), and with support and coordination from the Climate Observatory ('Observatório do Clima' in

¹²A provisional measure is effective immediately upon publication but requires approval from the National Congress within a specific timeframe to become a permanent law.

¹³In early July, the Brazilian Revenue Service extended the deadline for adopting electronic invoices by another month, and they became mandatory on August 1st, 2023.

Portuguese), filed the Direct Action for the Declaration of Unconstitutionality N^o 7,273 (or 'Ação Direta de Inconstitucionalidade' — ADI 7273 in Portuguese).

A few months later, the rapporteur of the action, Justice Gilmar Mendes, ruled for lifting the good faith presumption (Article 39, paragraph N^o 04 of Law 12,844/2013) and gave the Brazilian government a 90-day deadline to adopt a new regulatory framework to oversee the gold trade. All the other Supreme Court justices endorsed the rapporteur's rule.

As a result of this Supreme Court decision, although the good faith presumption mechanism is not definitely revoked, which could happen with new legislation, it remains suspended and is not applicable. This means that gold buyers are no longer protected by it. Financial institutions buying gold are now clearly subject to the provisions of the Anti-Money Laundering Law (Law N^o 9,613 of 1998), which stipulates that individuals or companies trading precious metals must have policies and procedures in place to prevent unlawful activities and keep records of all their clients and transactions.

The Supreme Court decision also pushed the Brazilian government to act faster. The working group led by the Minister of Justice advanced with a draft to implement new regulations to combat illegal gold mining and trade. On June 13th, 2023, the government formally introduced it to the Chamber of Deputies, not as a Provisional Measure, but as a bill.

Bill 3025/2023 proposes major measures to combat illegal gold mining and trade to be considered by the legislative branch. Similar to Bill 2159/2022, which was the original basis for the new draft, it introduces a comprehensive traceability system for gold, with mandatory forms to track all gold flows from mining sites to exports. It also specifies that only the owners of mining permits can sell gold, making them accountable and closing the door to intermediaries in the market. Furthermore, it prohibits gold-buying financial institution owners from holding mining claims or participating in other businesses in the gold supply chain. The bill also revokes the presumption of good faith in gold transactions and mandates electronic invoices.

Also, following the Supreme Court decision, the Central Bank of Brazil published Regulation 406 on July 31st, 2023, to establish more precise responsibilities for gold buyers, reinforcing all the compliance rules these financial institutions must observe when buying gold. This new regulation clearly states that financial institutions cannot presume the legality of the gold they purchase or the good faith of their sellers. They must adhere to other existing regulations, including, for example, risk management structures, compliance policies, audits, and controls to prevent money laundering or concealing assets.

Back to the legislative arena, on November 23rd, 2023, the Chair of the Chamber of Deputies, Congressman Arthur Lira (PP-AL), designated Congressman Marx Beltrão (PP-AL) — from the same party and state as Congressman Lira — as the rapporteur of Bill 3025/2023, presented by the Brazilian executive branch five months earlier. On December 9th, 2023, Congressman Marx Beltrão presented his opinion and a reviewed bill draft.

The new draft introduced some modifications to the original version. Essentially, it specified a state-owned company, 'Casa da Moeda'¹⁴, to electronically manage the records of the gold traceability system. At the time of writing, the draft is pending on the Chamber of Deputies if no new modifications are introduced. If the bill is passed, it moves directly to the Senate for consideration¹⁵. It is worth mentioning, though, that since Congressman Marx Beltrão introduced this new version of the bill, the draft has been under discussion and could be subject to further modifications.

Simultaneously, Bill 836/2021, presented by Senator Fabiano Contarato (PT-ES) in March 2021, has also progressed. In March 2023, Senator Jorge Kajuru (PSB-GO) was appointed its rapporteur in the Senate's Environmental Committee. On December 7th, 2023, he presented his favorable opinion on the bill, but with a new draft. The senator replaced the original text with a very similar version to Bill 3025/2023, presented by the government to the Chamber of Deputies. In other

¹⁴'Casa da Moeda' is a state-owned company that issues banknotes and coins in Brazil and specializes in protection technologies against counterfeiting, diversion, and smuggling.

¹⁵Bill 3025/2023 is being directly considered on the floor of the Chamber of Deputies. It was not submitted to any of the lower house's committees beforehand.

words, by the end of 2023, the Senate and the Chamber of Deputies were considering similar bills, moving in the same direction to establish a traceability and control system for the gold market. This reflects coordinated efforts between representatives of the executive and legislative branches to make these discussions more cohesive.

On December 13th, 2023, the Senate's Environmental Committee approved this new draft presented by Senator Jorge Kajuru and submitted it to the Economic Affairs Committee, the final committee to review the draft. On February 22nd, 2024, Senator Jorge Kajuru presented his favorable opinion on the bill to the Economic Affairs Committee. On February 27th, 2024, the committee discussed the bill and decided to convene a public hearing.

The public hearing took place in the Senate on March 12th, 2024. The author of this article attended the hearing and was heard on behalf of Instituto Escolhas, along with representatives from the Ministry of Justice, the Federal Police, the Brazilian Mining Institute, the Organization of Brazilian Cooperatives, and the Brazilian Institute of Gems & Precious Metals. During the hearing, the importance of approving the bill was clearly expounded to the Senators.

The Economic Affairs Committee met and voted that same day, right after the public hearing. All the Senators voted in favor of it, and the bill was passed and sent to the Chamber of Deputies, which is currently considering it.

Presently, the Chamber of Deputies is considering Bill 836/2021 (originated in the Senate) and Bill 3025/2023 (originated from the executive branch), which have similar wording and are highly positive in establishing a traceability system and controls for the gold industry. Bill 3025/2023 is pending consideration on the floor of the Chamber of Deputies, and, if it is passed, it will go to the Senate. The Senate has already approved Bill 836/2021, which is now pending consideration by the Chamber of Deputies before it may eventually become law. Both bills are in advanced stages of congressional proceedings, indicating a favorable outlook for the topic in the legislative sphere. Table 03 presents the norms implemented by different arenas.

Table 03. Norms implemented and under consideration

Norm	Implemented on	Under evaluation at the
Revenue Service Regulation 238 ¹⁶	March 29 th , 2023	-
Federal Supreme Court Decision on ADI 7273 ¹⁷	April 4 th , 2023	-
Central Bank Regulation 406 ¹⁸	July 31 st , 2023	-
Bill 836/2021 ¹⁹	-	Chamber of Deputies
Bill 2159/2022 ²⁰	-	Chamber of Deputies
Bill 3025/2023 ²¹	-	Chamber of Deputies

Source: Elaborated by the author.

Conclusion

A new gold rush has been taking place in the Amazon region for over a decade, bringing illegal gold mining impacts to unprecedented levels. From 2012 to 2022, wildcat gold mining areas in the Amazon almost tripled, and the areas occupied inside Indigenous territories increased by 6.5-fold. However, it was not until recently that the issue was acknowledged and prioritized.

The change of government in 2023 and the terrible humanitarian crisis experienced by the Yanomami people — one of the most affected by illegal wildcat mining — have prompted the government to engage in discussions to combat the situation. Recognizing the pressing need to address the complete lack of controls in the gold trade that eventually led to the increase in illegal activities, the new administration has initiated dialogues and policy deliberations to implement measures.

¹⁶RFB Normative Proceeding N^o 238, from March 29th, 2023. Available at <<http://normas.receita.fazenda.gov.br/sijut2consulta/link.action?idAto=129816>>. Accessed on March 06, 2023.

¹⁷BRAZILIAN SUPREME COURT (2023), Medida Cautelar na Ação Direta de Inconstitucionalidade 7.273. Available at <https://www.stf.jus.br/arquivo/cms/noticiaNoticiaStf/anexo/ADI7273_Cautelar.pdf>. Accessed on March 06, 2024.

¹⁸BCB Normative Proceeding No. 406, from July 31st, 2023. Available at <<https://www.bcb.gov.br/estabilidadefinanceira/exibenormativo?tipo=Instru%C3%A7%C3%A3o%20Normativa%20BCB&numero=406>>. Accessed on March 06, 2023.

¹⁹Bill 836, from March 11th, 2021. Available at <<https://www25.senado.leg.br/web/atividade/materias/-/materia/147387#:~:text=Projeto%20de%20Lei%20n%C2%B0%20836%2C%20de%202021&text=Alterar%20a%20Lei%20n%C2%BA%207.766,19%20de%20julho%20de%202013.>>. Accessed on March 07, 2024.

²⁰Bill 2159, from August 4th, 2022. Available at <<https://www.camara.leg.br/propostas-legislativas/2333782>>. Accessed on March 07, 2024.

²¹Bill 3025, from June 13th, 2023. Available at <<https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2368697>>. Accessed on March 07, 2024.

As described in this article, many essential measures have been implemented and others are being discussed. There is no doubt that, in a year — from January 2023 to January 2024 —, Brazil has advanced more in combating illegal mining than it did in several decades prior.

For instance, currently, there is a consensus around the need to adopt a traceability system for gold to combat illegal mining. The need for traceability is no longer up for debate — the focus now lies on the terms and the timeline for its effective implementation, which is under consideration by the Brazilian Congress. This is a significant advancement. Also, the Brazilian Revenue Service established electronic invoices for wildcat gold, and the Brazilian Supreme Court decided to lift the ‘good faith’ presumption governing transactions. Both will make authorities’ work easier and curb illicit activities.

However, despite these significant improvements, gold market controls are still very weak, and there is still a long way to go. Other substantial changes are needed to repress illicit activities, contain gold mining environmental impacts, and correct distortions.

First, it is essential to enable steady law enforcement and oversight. More resources are needed for IBAMA (Brazilian Environmental Agency) and Federal Police operations, as well as monitoring and alert systems. Resources are also necessary for innovative projects, such as ‘Ouro Alvo’, conducted by the Federal Police, which collects and keeps gold samples and uses modern equipment to identify where a gold nugget or bar comes from, which is crucial for illegal gold seizures. The National Mining Agency, which has always been neglected, also needs to be structured according to the size and economic importance of the mining sector in Brazil.

Second, Brazil needs to establish adequate gold trade controls. The lack of control has created a massive incentive for illegal operations, especially inside Indigenous territories and other protected areas, as illegal gold from these and other illicit areas can quickly enter the formal market and travel overseas. Despite recent improvements in the regulatory arena, it is urgent to establish an improved regulatory framework to control gold flows and market players,

combined with a traceability system, as the one under consideration by the Brazilian Congress.

Third, stricter controls over wildcat mining operations are essential to address their severe and increasing environmental impacts and correct market distortions. Currently, individuals have a facilitated process to obtain wildcat mining permits and wildcat mining environmental licenses compared to the processes of companies operating under the mining concession regime. However, as wildcat mining operations have grown in size and machinery structure over the years, they should be subjected to requirements consistent with their dimensions and impacts.

Measures that could correct this situation may be implemented even without changes in the laws governing the industry, but through sub-legal regulations; for example, setting a production limit for wildcat mining operations. Beyond defining specific volume caps, these operations should automatically transition to a concession regime, being removed from the small-scale mining permit system, once they go over that limit. This would ensure that only small operations remain under the wildcat mining permit regime. In contrast, larger operations must adhere to the rules of the concession regime, which is more suitable for their scale.

It is also essential to require estimates of reserves and production from wildcat mining operations through mineral surveys. Despite the existing legal provision for this²², only companies under the concession regime are obligated to provide such estimates. Even though wildcat mining operations may focus on superficial or erratic gold deposits, an estimate should be required. Without knowledge of reserve size or production expectations, it is challenging to raise alerts when mining sites yield quantities of gold or other minerals that are incompatible with the area.

Finally, wildcat mining operations and authorities must address mercury contamination — one of the most severe impacts of mining. Despite Brazil's commitment to the Minamata Convention²³, mercury remains widely and dangerously used with inadequate controls. Brazil must ban the use of mercury, as

²² According to Law N° 7,805 of 1989, article 06.

²³The Minamata Convention on Mercury is an international treaty signed in October 2013 to protect human health and the environment from the impacts of mercury use.

Colombia did in 2018. That is precisely what Bill 2417/2024 — presented to the Brazilian Congress on June 18th, 2024 by Congressman Nilto Tatto (PT-SP) — proposes.

In summary, despite significant political and regulatory advances in 2023 and 2024 to combat illegal gold mining, Brazil has only started to scratch the surface of the problem. More than a year has passed since combating illegal mining was politically prioritized, but the country still lacks an adequate regulatory framework to tackle it. With adequate regulations, law enforcement, and oversight, it is possible to prompt a profound change in reality, curb illicit activities, correct distortions, and contain the industry's negative impacts on Brazil's economy, environment, and Indigenous communities.

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