

Acknowledgments

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Prologue Playing Monopoly with the Devil

This is the tale of what happened to Dema Gogo, ruler of a poor country in an underdeveloped area of the world, when he discovered that he could issue his own currency. The tale starts with a conversation he had with the Devil himself, the day after his inauguration as President of the Republic. Drinking a glass of cognac and smoking a Cuban cigar on the veranda of the Presidential Palace, enjoying the sight of the luscious tropical plants that grew in the garden one floor below, he was pondering what he could do to assure his reelection five years down the road. He had many ideas but no money. It was in that placid moment that he saw a familiar character approaching him.

“Hello, Devil!” he said. “Join me in a cognac and a cigar.”

“Hello, Dema!” said the Devil, helping himself to a glass of cognac and taking a seat alongside the ruler, so that both were looking at the garden. Sitting in this way, seeing not each other but instead

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some common object, gave both of them a sense of intimacy, of common purpose.

"I have a proposal for you," said the Devil.

"A proposal? Maybe you mean a deal. That's what you're known for."

"A deal? I wouldn't dare. Your campaign said that you are incorruptible," the Devil said.

"Well, don't pay much attention to campaign language," said Gogo. "A politician always listens to proposals. That's politics, you know. I'd sell my soul for a reasonable price—say, the combined price of all the assets in the country. No credit, mind you. Cash only."

"I don't mean to sound offensive, Mr. President. I'll remember your kind offer but it'd be too much for me at this moment. Not much cash on hand at the moment. You'll understand."

Gogo laughed. "We share that problem. Let's drink to it!"

"If you'd allow me to address that problem," said the Devil, sipping some cognac, "let me tell you that I was just with Dr. Werner von Bankrupt down below, in my dominions. He has just arrived. Bright individual. Not quite reliable, though. He was a macroeconomist when on earth, you know."

"They're worse than us politicians. Never repeat this, please."

"I know, I have plenty of them down there. A great team, really. They have accomplished many a feat for me," said the Devil. Then he continued, "Well, in any case, he had a bright idea. I told him about my cash problems, and he said that I should issue Hell's own currency. I told him I didn't need a local currency because there are no transactions in Hell. I only needed cash for my operations abroad. That means dollars, you know. But, then, when he explained his ideas to me, I thought that maybe you could use them. You should issue your own currency, the gogo, with your face on each coin and bill."

"Oh, that's not such a brilliant idea. What's in it for me to print my own currency? I'm not quite sure I want my face all over the place. It's one of my weaknesses, you know, according to my Miami-based campaign advisors."

"Dr. von Bankrupt explained the benefits you could get. This is what he said. Imagine your country is a gigantic Monopoly game. You use Monopoly money to play Monopoly, right? Now imagine you force people to give you their dollars to get the money they need to play in the country. You get the dollars, they get Monopoly bills, and you can print as much as you want! It'd be as if you had the Monopoly bank for your exclusive use! You could land on Boardwalk with hotels and not worry at all. You just take money from the

bank. If you want to buy property, just take more money. Get it? And on top of that, you can use their dollars! You can deposit them in New York and get interest on them. And that's real money. Dr. von Bankrupt told me it's called seigniorage: the ruler's right to extract an income from allowing people to use the local money. You win, Dema, no matter what!"

Gogo, openmouthed, turned his head to look at the Devil. "That's a brilliant idea!" Then he turned his eyes up, thought for a moment, and asked, "But what's in it for you? You've given it to me and I've signed nothing!"

The Devil looked at him with sweet innocence. "Consider it a bonus for a long and profitable relationship."

And so Dema Gogo created the gogo, and issued a decree mandating that all transactions in the country had to be denominated in the new currency. A central bank, managed by the eminent financier Don Santiago De la Insolvencia, was established to issue the gogos and manage the dollars obtained in the operation. Governor De la Insolvencia established the rule that the Central Bank would issue gogos only when the citizens surrendered their dollars to it. The exchange rate was 1 to 1, so that the Central Bank held one dollar for every gogo in circulation.

Dema Gogo was very happy when he saw the enormous amount of dollars going into the coffers of the Central Bank as the citizens exchanged them for gogos. His happiness turned into fury, however, when De la Insolvencia told him that he could only use the interest on the dollars, and not the total amount, for his pet projects.

"Why not the entire amount?" asked the ruler, suspecting that the governor was playing a trick on him.

"Because we have to hold reserves of true dollars, Mr. President. This Monopoly board is not self-contained. Not all the things that people need can be bought inside the board. We have to import things, people need to travel, and for this they need real money. Nobody takes gogos if not forced to do so. Therefore, we have to be ready to sell dollars back to them whenever they give us gogos."

"But I still can print as much local money as I want!" said Gogo, recalling what the Devil had told him.

"Not quite," said the governor. "The more you print, the more economic activity you have, and the more imported things are needed. So, the more money you print, the more dollars you need."

"So, what's the advantage of having gogos?"

"You still get the interest on the real dollars that remain in the country,

which amounts to 5% of these. That's a lot of money, Your Excellency. The interest is so important that it has a name. It's called seigniorage: the ruler's right to charge for the use of money inside the country."

"I don't want to scale down my projects by 95%!" roared Gogo.

He called the Devil again. "This is a fraud," he said, "a mirage! I'm only getting 5% of the Monopoly bank."

The Devil smiled. "That's because Santiago De la Insolvencia is out of date. He established what's known as a currency board. This is not what Dr. von Bankrupt had in mind. De la Insolvencia is ignoring something that the experts call the 'float.' Not all the money leaves the country; there is always a certain amount that is left inside, which they call the float. You can spend that money, sure that nobody will ever withdraw it. Issue gogos against that float, and you'll see that nothing will happen, except that you'll be able to spend more money."

"And how much would that float be?"

"Von Bankrupt estimates that, on average, it's only 20% of the reserves that fluctuate. You can use the other 80%."

"I'm starting to develop a liking for you, Devil," said Gogo.

"You've always liked me. I know it in my heart," answered the Devil.

Gogo called De la Insolvencia and told him to get rid of the currency board and immediately issue a loan to the government equivalent to 80% of the reserves. The loan would finance the Gogo bridges, the Gogo roads, the Gogo statues, and so on—all the things that Gogo had dreamed of building to perpetuate his memory and win the next election. Within a few months, all these works were started. Not only that, the country was awash with money and a real estate boom was in progress. The Property Owners' Association gave him a golden decoration. The ruler was satisfied and enjoyed his late afternoon cigars more than ever.

Governor De la Insolvencia, always apprehensive, called him to say that dollar reserves were going down.

"Who cares, De la Insolvencia? Don't be a chicken. We knew they would decline. It's the float! Everyone loves gogos now!"

Gogo loved to say *float*. It was a technical word, like *seigniorage*, but he couldn't pronounce the latter.

One day, however, the Minister of Public Works, Mr. Rodrigo Diez Porciento, visited him. "Your Excellency," he said, "I'm having problems buying property and materials. Private citizens are demanding those as well, and they are offering increasingly higher prices. There have been a lot of gogos going

around since the currency board was terminated. To ensure that we can buy these properties and materials, we have to offer higher prices.”

“Don’t worry, Diez Porciento, just pay a little more than the citizens are offering. That will suffice.”

A few months later, Diez Porciento came back. He showed him a ledger with numbers. “Your Excellency,” he said, “I come with bad news. Costs are outstripping our budgets considerably. We won’t be able to finish any of your projects if we don’t get more money. We’re 25% short.”

“How is that possible? I told you to pay only a little more than the citizens were offering for what you needed. Now you show me a 25% shortfall!”

“I’ve been paying just a tad over the private sector bids. But those bids have been increasing steadily. To outstrip them, I have had to bid increasingly larger amounts.” Gogo called the Central Bank governor.

“Your Excellency, I’ve been trying to reach you. We’re losing more reserves than we thought. The country is importing more than ever. I’m worried we might lose more reserves than we can afford. Also, with the continuous monetary creation, prices of everything are going up and people are protesting. They’re calling your policies ‘inflationary.’ Could you tell Diez Porciento to cut his expenses?”

Then Gogo read a statement the Property Owners’ Association had published in the newspapers. “President Gogo is playing the ‘One million dollar cat for two half-a-million dollar dogs’ game on us. We sold our properties at very high prices, but when we went into the market to replace them we found that all properties were equally expensive, and that the higher prices were only a mirage. We are as poor as ever.”

Gogo summoned the Devil again. “Look at what’s happening here! We’ve got inflation and we’re losing reserves. Now Santiago De la Insolvencia says we should cut back expenditures while Diez Porciento says he won’t be able to finish my projects unless he gets more money. I knew I couldn’t trust you!”

The Devil feigned offense. “Dema, old friend, how can you tell me this? Dr. von Bankrupt says that all you have to do is devalue your currency.”

“Devalue? What do you mean?”

“Today, you’re selling one dollar for each gogo when people import things. Tomorrow you should charge two gogos for a dollar. People won’t be able to buy all the dollars they’re buying now.”

Gogo looked at the Devil with wild eyes. “You’re right, Devil! That’s the solution.”

And the next day he devalued the currency. Demand for dollars dropped immediately. Early in the morning, he got a call from the president of the exporters association. "We're very happy, Your Excellency. The gogo-equivalent of our export revenues has doubled. Since salaries have not gone up, exporting has become more profitable."

The ruler was elated, until he got a call from Ms. Tessa Bono, the Minister of Finance. "Your Excellency, we're in deep trouble. I enthusiastically endorsed the devaluation, but now I have realized that the burden of the external debt has increased twofold. Yesterday, we needed one gogo to pay one dollar, now we need two gogos, and our taxes are all in gogos. We have to keep on inflating the economy, so that our tax revenues increase enough to service our debts. What I'm saying is that you must tell the Central Bank to lend me more money. Of course, you can't devalue again. Just inflate, don't devalue. If you do, the dollars will be dearer again."

"Happiness is never complete," thought Gogo, one second before he got a call from Mr. Jaime Hoffa, the Minister of Labor.

"Your Excellency, we're facing a labor revolt. The workers claim that we've effectively lowered their salaries with the devaluation and demand an immediate adjustment, which would mean doubling their wages, so that they remain the same when measured in dollars."

Then it was the Central Bank governor's turn. "Your Excellency, interest rates are going up, way up. They've reached 100%, almost twice those of Brazil. Banks say they have to increase them because, if they don't, people will take their deposits abroad. They think you'll devalue again. We can't afford this capital outflow. We don't have enough reserves, as you know."

"Reduce printing. Do as you want," said Gogo, tired of all this currency chaos.

The day proceeded with a call from Diez Porciento. "Your Excellency, Santiago De la Insolvencia tells me that you told him to stop lending to the government. Tessa Bono tells me that without such lending she can't give me the money I need. I'm sorry to say that we need further budgetary increases. The cost of all imported materials has doubled, and they represent a high percentage of the cost of new construction. Just think of oil."

Tessa Bono called immediately thereafter. "Your Excellency, the fiscal deficit is increasing rapidly because of the soaring interest rates. Our Treasury bills are paying 105%. We can't afford this."

"Sir, there is a demonstration coming to the Presidential Palace," interrupted his Chief of Security. "They say they want your head."

At 5 p.m., the ruler called the Central Bank governor and commanded him to increase the printing of gogos in order to lend more resources to the government. Immediately thereafter, he decreed that all salaries would be increased by 100%, effective immediately.

That solved most of the problems of the day, except the interest rates. Gogo was happy he had been able to find a solution without consulting the Devil. He then took a week's vacation on the beach.

When he came back he found the Central Bank governor waiting for him. "Your Excellency, we have a serious problem. Since we increased salaries, all prices have increased and we're in the same position as before, when we originally devalued the currency. Dollars are twice as expensive as they were before the devaluation, but incomes in gogos are also twice as much as they'd been before that date. We're losing reserves again, and quickly. Interest rates are also increasing rapidly, not because we've devalued but because people *think* we will devalue. Some of them are taking their money abroad, regardless of the interest rate. We have to devalue again."

Gogo looked at the governor. "But, De la Insolvencia, if we devalue today, we will have to devalue again tomorrow. This is like bicycling downhill without brakes."

"Yes, Your Excellency, I suppose it is."

Gogo's eyes went down to the newspaper that his assistant had left on his desk. The president of the exporters association was in the headlines. He looked indignant. The paper quoted him: "The government's policies are reducing the competitiveness of the country. Our labor costs are increasing fast and the prices of our exports remain the same. We demand another devaluation, and soon."

On the second page, there was a picture of the national labor leader. He also looked indignant. He was saying: "We'll strike if the government devalues further and doesn't increase our salaries proportionally."

Gogo steadied his nerves. He would talk with the Devil. The Devil always had solutions. He wished the Devil could be the governor of the Central Bank. It was a pity that he couldn't, on constitutional grounds. The Devil wasn't a national. He met all other requirements.

"Of course I have a solution," said the Devil. "Float the currency."

"What do you mean?"

"Don't have any official price for the currency. Just let the market set it. If you do this, you can keep on printing as much money as you want without

having to announce that you'll devalue the currency. People selling and buying gogos will set that price in every transaction. Nobody will blame you."

The next day Gogo announced the flotation of the gogo. International institutions praised him. The *Timely Times*, the most influential newspaper in the country, published an editorial saying: "Our eminent President Gogo has entered the realm of enlightened rulers by adopting the most flexible of all monetary regimes. Now, according to what our macroeconomic advisors say, we will be free from the comings and goings of the international monetary markets. We are, at last, sovereign in monetary matters. We can exert what the experts call 'monetary policy' and let the market take care of itself."

Gogo felt happy again. But not much time passed before his calm was interrupted by a call from the governor of the Central Bank. "Your Excellency, our currency isn't floating but sinking. Inflation just keeps on increasing and interest rates are doing the same. Since the currency keeps on devaluing, the interest rates are too high for lending. Only bad customers borrow at these rates, and we face the prospect of a financial crisis, as bad loans are accumulating. At the same time, savers are taking their money abroad. We have to reduce the cost of money and give confidence to the people."

Gogo had never thought of such a possibility. "I don't want to go back to the Devil. I get into deeper trouble every time I do it. Besides, I don't want to give him the impression that I can't manage the country without his advice."

"I have a solution," said Mr. De la Insolvencia, "let's allow savers to deposit their money in our banks in dollar accounts. With that, they'll be protected against inflation and devaluations. The deposit interest rates on those accounts will fall. Then the banks will be able to lend at lower rates to good companies, in dollars of course."

This was done. Deposits increased in the dollar accounts, which paid interest rates much, much lower than those in gogos. People, however, didn't want to borrow in dollars, because as the gogo devalued the value of their debt increased in gogo terms. This time, Gogo forgot his pride and called the Devil again.

"Don't worry," said the Devil, "they'll soon discover that domestic inflation will allow them to repay their loans. If the currency falls by 100% and wage inflation is 100%, they can do it. Since the currency floats, it'll happen automatically."

Gogo felt happy, but he had the eerie feeling that something was wrong.

A voice told him, “You have gone back to square one. This is the same as not devaluing and having zero inflation. It is the same as when you didn’t have a currency of your own, except that everything is more complex now.”

Still, he called Mr. De la Insolvencia. He was already speeding downhill and there was no point in wishing he had never started doing so. “Pre-announce the rate of devaluation, which will be the same as expected inflation, 100%. This will be the rate at which you’ll create money,” said Gogo, repeating the detailed instructions he had received from the Devil.

The Governor was impressed. “This is what the international organizations say is best.”

The Minister of Public Works called one month later. “Your Excellency, I need more money to finish the projects. Inflation is running ahead of me. When I try to buy things, prices increase before I have a chance to pay. One of my advisors tells me it’s called rational expectations. At this rate, we won’t be able to finish the public works in time for the election.”

Gogo was seriously worried. He called the Devil again.

“Give them an unexpected shock to catch them off guard, something they wouldn’t expect,” the Devil said. “Give Diez Porciento a lot of money, so that he can finish the public works, but time this move so that the effect on inflation is delayed until after the election. This is called lags, you know.”

In spite of the reassuring tone of the Devil, it was during those days that Gogo began to have a recurring nightmare of dismemberment. He was riding in between two bicycles, one called inflation and the other devaluation, and he had to keep them going at the same speed to avoid disaster. Later on, he began dreaming that the number of bicycles increased. In one of these dreams, he was holding inflation and devaluation with his hands, while he kept the other two going with his legs. Those were called interest rates and the debt service abroad. The worst nightmares came when he became an octopus, with a bicycle tied to each of his tentacles, which by now controlled the rate of capital flight, the spreads between loans denominated in dollars and gogos, the gains and losses to banks resulting from different rates of devaluation, the acquisitive power of wages, the levels of international reserves, lags, floats, rational expectations, seigniorage, unexpected shocks, and so on.

With only two months to go until the election, Santiago De la Insolvencia called again. There was anxiety in his voice. “Sir, we’re in a mess. People can’t repay their gogo debts. Interest rates are too high because people think that the rate of devaluation will accelerate. They can’t repay their debts in dollars because inflation is depressing business and, for this reason, the gogo value of

the dollar debts is increasing faster than their incomes with each devaluation. Depositors are changing from gogos to dollars and our reserves are plummeting. The black market is booming and there the price of the dollar is going up very fast. Now the official exchange rate is one billion to one, and in the black market 1.5 billion to one. I think the risk of a banking crisis is high and we don't have enough dollars to avoid it."

"But, why? We have guaranteed that we won't devalue the currency faster than 100%. And call me 'Your Excellency'!"

"The problem is that people don't believe that you'll be able to honor your word—Your Excellency. The crisis will explode if the public perceives that the government doesn't have enough dollars to back the gogos."

The Devil was back. "Don't worry. The Ministry of Finance should issue short-term dollar-denominated debt and pass the proceeds on to the Central Bank. This will give you the foreign exchange you need. This is more or less what Mexico did in 1994."

Since Gogo didn't know what Mexico had done in 1994, and didn't know what happened there afterwards, he felt optimistic. The Ministry of Finance issued 30-day notes paying 12% in dollars while U.S. Treasury Bills were paying 2%. Minister Tessa Bono, in a fling of vanity, called them Tessabonos. The government got a new influx of dollars.

Three days before the election, however, there was an editorial in the *Timely Times*. "As this paper went to print, the gogo fell off its predicted course by more than 200% and then went into a free fall in the black market, which is the only working one in the country, as the government has stopped selling dollars. Five years ago, we had a stable currency and, even if our growth rates were not sensational, we were making steady progress. Now, we have runaway inflation; there are no dollars to pay for our imports; interest rates are sky high; the value of the private sector dollar debts to the banking system is ballooning as the currency devalues, leaving the private sector as bankrupt as the government; and the government has defaulted on its dollar-denominated Tessabonos. Of course, the banks have plenty of gogos, which are printed by the Central Bank on demand, but cannot deliver what their depositors want: dollars. So much for the much advertised capacity of the Central Bank to act as a lender of last resort. We supported Gogo five years ago. We want to compensate the country for our mistake by offering a prize for his soul: one trillion gogos."

The phone rang as Gogo finished reading the editorial. “Gogo,” said Mr. De la Insolvencia, “we have a run on the banks. People believe that the currency will devalue by more than any amount that you announce and they continue changing their gogos into dollars, now at a terrifying rate. I’m on board a plane that has just taken off, headed to a place I prefer to leave unknown. When I left, your reserves were fifty cents. There are riots in front of the banks. Please accept my resignation.”

Gogo heard a deep rumble. First it was a faraway sound, but soon he realized that it was approaching him fast. The floor was vibrating with increasing force. Then he heard the horrible sound of windows breaking and pounding footsteps, thousands of pounding footsteps, running up the stairs. “What’s going on?” he asked his assistant.

“A mob wants to get you,” she said, rushing to the presidential helicopter, which took off as soon as she boarded, with Gogo’s entire corps of bodyguards and the secret stash of dollars that Gogo had kept in his office for dire situations like these.

Gogo jumped into the garden and ran quickly, looking for a hideout. He found it inside a little grotto where he used to have drinks with friends. He sat there for a moment, head in hands, and then let out a muted cry. There was someone else there. It was the Devil.

“You really scared me!” he said.

“What’s going on, my friend?” asked the Devil, smiling maliciously.

“A mob is chasing me.”

“What did you do to them?”

“Nothing! They’re unreasonable. They don’t understand how difficult it is to manage the macroeconomy.”

“What do they say?” asked the Devil.

“Look!” said Gogo, handing him the wrinkled page of the newspaper with the editorial printed on it.

“What can I do?” asked Gogo while the Devil read with deep concentration. “How can I make people trust my currency?”

“Oh, you should just abolish it at this point,” said the Devil, “although I suppose it’s a bit late for that.” And before Gogo could respond, the Devil walked to the entry of the cavern and shouted, “He’s in here!”

A startled Gogo ran from the grotto but, in his rush, stepped on a slippery stone, fell backwards and broke his neck. He died instantly.

Gogo woke up in another world. He expected to see a Court of Judgment, with God presiding, but he saw only his old friend, the Devil, who was tying him up with steel ropes while giving instructions to the minor devils as to the particular furnace he should be carried to. Once he finished tying him up, the Devil put a sign on top of him. “‘Devil’s property,” it said.

“Hey!” said Gogo, “I deserve a trial! I never sold my soul to you.”

The Devil smiled. “Last night I bought out the *Timely Times* and, as you know, I tendered a public offer for your soul, which was delivered by the mob that chased you this morning. I paid a trillion gogos, which, when added to the trillion I paid for the newspaper, Dr. von Bankrupt tells me, is the combined price of all the assets in your country.”

“I never signed anything!”

“There’s no need for such trifling formalities. I have you on tape saying that you’d sell me your soul if I paid that amount. I just exercised the option.”

As Gogo was being carried away by the minor devils, the Devil told him, “At today’s exchange rate in the black market, I paid about a buck-fifty. That was a fair price.”