

Bruce Edwards:

We've all heard stories of overnight crypto billionaires, so what if governments could effectively tax that wealth?

Ruud De Mooij:

If you do a back-of-the-envelope calculation for, let's say, a year 2021, which is a year where there was an enormous increase in the price of crypto assets, if these capital gains would've been taxed, this could have been about \$100 billion for that year.

Bruce Edwards:

And even with the dramatic ups and downs in the crypto market, governments have lots of incentive to find a way to collect taxes on gains from crypto trading.

Ruud De Mooij:

Then came year 2022, which was a year where there was an enormous reduction in the price of most of these crypto assets. So if you look more structurally on what the government would generate on average, it is more in the ballpark of 10 to 25 billion U.S. dollars.

Bruce Edwards:

In today's program, the tax treatment of crypto and why governments should figure this out.

Ruud De Mooij:

My name is Ruud De Mooij. I'm a Deputy Director in the Fiscal Affairs department, and I'm overseeing the work in the department about taxation, climate, and also on digitalization.

Bruce Edwards:

So how much crypto is there out there? I mean, in terms of value, what are we talking about?

Ruud De Mooij:

Well, that's interesting. So 15 years ago, crypto assets did not exist. Today, approximately 400 million people around the world have crypto assets or use crypto assets, and you see this number is growing rapidly. You see that in, if you go to the supermarkets. You see, for instance, these machines that can exchange your dollars for bitcoins, or if you go to your Venmo app, you can basically click on a button and purchase crypto assets, so it's very easy these days to purchase them. In the U.S., for instance, about 20% of people own or have owned crypto assets, so it's quite significant in terms of what people do with it.

That's also interesting to see, if this is used as sort of an exchange. Do people purchase goods and services with their Bitcoins?

Bruce Edwards:

Do they buy a cup of coffee with the crypto assets?

Ruud De Mooij:

Exactly, exactly. That's the kind of question, and you see this is increasing because household names like Microsoft or Whole Foods, they do accept bitcoins these days as a means of payments, so it is increasing, but it's still small. In the U.S., for instance, we find that about \$50 million U.S. per day is transacted using crypto, which is, compared to the total amount of transactions, it's a very small fraction still.

Bruce Edwards:

It sounds big, but in the big picture, it's not so big.

Ruud De Mooij:

Yeah. And maybe also interesting is El Salvador. El Salvador has adopted Bitcoin as a legal tender, so you can also see how much is it actually used in the country. You see, for instance, in El Salvador that 80% of the firms do not accept crypto or Bitcoin, and only 5% of all the transactions is through Bitcoin, and 95% is still basically using the U.S. Dollar.

Bruce Edwards:

And so what are those countries that use crypto assets the most out there? I mean, is this something where it's mostly rich people using it in rich countries, but you just mentioned El Salvador, so it's not necessarily the case then?

Ruud De Mooij:

No, that's exactly the case. So if you look at sort of the adoption of crypto assets, it's not the advanced economies, the rich countries that dominate. It's actually mostly in Asian countries, so countries like Vietnam, Philippines, India, these are the ones where crypto assets are adopted most intensively, and also some African countries, like Tanzania, Kenya, Nigeria, where crypto assets are really popular. The U.S. is the only advanced economy that is in the top 20 countries of crypto adoption. Of course, the U.S. is a big economy, so in terms of sort of the, what is the largest country in terms of the crypto assets, it's still the U.S.. 16% of the global crypto assets are in the U.S., but the adoption is much higher in developing countries.

Bruce Edwards:

So do you see Europe as slowly catching up to the U.S. or ...

Ruud De Mooij:

Europe is certainly not in the top 20 at this stage. I think the highest in Europe is the UK, but other European countries are lagging behind, and it also depends on how far crypto is, of course, regulated. Some countries have a ban on crypto, and, of course, this also affects the use.

Bruce Edwards:

So one of the attractions of crypto is that cryptocurrency transactions go largely unmonitored and are anonymous for the most part, so is it, given that, I mean, is it difficult to find the data that you need to conduct this type of research?

Ruud De Mooij:

Well, it's kind of a paradox because on the one end, it is enormously transparent, because all the transactions that take place on the blockchain can be verified by everyone, so you can look at the whole history of the crypto assets or Bitcoins and get the information about what has happened with it. So that's remarkably transparent, and there's a huge amount of data. The problem is you do not have the information related to these transactions, so you don't know what the transactions are for, so the nature of the transactions, or you don't know who made the transactions, who is the individual that received the payment, and that is often information that you need, as a government, for instance, if you want to tax certain transactions. So there's this paradox. A lot of information, but not the information that is necessary for a lot of what the government needs it for.

Bruce Edwards:

So that's interesting that you know that the transactions are happening, but to regulate it in any way would be very difficult, right?

Ruud De Mooij:

Yeah, yeah. So one of the reviewers of our paper said, "So in the past, we knew who the person is, but we did not know what his income was, but with crypto, basically, we can observe what the income is, but we don't know who the person is behind it."

Bruce Edwards:

All right, so your research looks at the potential revenue gains, if we were able to properly tax crypto. What kind of numbers are we talking about, and do you know how much tax is actually being evaded?

Ruud De Mooij:

The most important taxes are the income tax and the value-added tax. So on the income tax, we talk, for instance, about the income that miners earn, who do the verification of these transactions, though they earn an income from it, and that's usually taxable. The other part is the capital gains that people enjoy from having crypto. So if the price increases and you sell it with a gain, people are usually taxed on the capital gain. So the question is, "How much are these forms of income?," and if you do a back-of-the-envelope calculation for, let's say the year 2021, which is a year where there was an enormous increase in the price of crypto assets, in that year, if these capital gains would've been taxed, we calculate that this could have been about \$100 billion for that year.

Bruce Edwards:

Wow, that's really amazing.

Ruud De Mooij:

That was quite a lot of money, but then came year 2022, which was a year where there was an enormous reduction in the price of most of these crypto assets, and then people make a loss. Losses can usually be offset against other incomes, so that's actually a negative tax for the governments. So if you look more structurally on what the government would generate on average, it is more in the ballpark of 10 to 25 billion U.S. dollars. So it's not that much, but it's also not insignificant in terms of income tax. Perhaps even more important is the value-added tax.

As I said, the number of transactions used for purchasing goods and services, not so high yet, but if that would become more common, then the risk for the government in terms of revenue, collecting revenue from the VAT could be much larger, but that depends on how much sort of these transactions using crypto assets would increase.

Bruce Edwards:

So the question is how ... I mean, obviously, there's some potential there for revenues, but how do governments actually tax something that happens ... All these transactions are happening outside of the traditional financial system. How do you fight tax fraud with crypto when it's all happening under the radar?

Ruud De Mooij:

Yeah, that's the heart of the problem, because crypto transactions are anonymous, so how do we know who should be taxed, and how do we know what the transaction is that should be taxed? But what is important is that these days, there are different types of trades. So some trades take place on a decentralized level, so peer-to-peer trades or on decentralized exchanges, and these are very hard to capture basically, but a lot of trades these days also takes place through exchanges, centralized exchanges. So these are basically companies that trade for you, or brokers that trade for you. These centralized exchanges or these brokers, they can be subject to regulations, so they can be made liable to report to the government about these transactions, and also because they can be subject to Know Your Customer rules. So these exchanges have to know the individuals behind these transactions and have information about them, and have to report that information to the government.

So this can help, actually, with the collection of tax, because then, the government has access, which it can verify for the tax obligations. This is what countries are doing, so they make reporting requirements for the centralized exchanges to the tax administrations, they also organize exchange of that information between governments, otherwise you can move to another country, and then do the exchange there where there's laxer regulations, but that's now also information that is exchanged. So there are ways in which the government can try to limit the amount of tax evasion that is possible by imposing these regulations, but it's still a problem for these decentralized trades, of course, where there's no such information available.

Bruce Edwards:

One of the big complaints about crypto assets, Bitcoin specifically, is that they use masses amount of energy, and that are, they're essentially environmentally unsustainable, and your research suggests that taxation may be a solution to that problem. What's the rationale there?

Ruud De Mooij:

Yeah, so some of the crypto assets use a lot of electricity, especially the ones that are based on the proof of work mechanism, because they are basically solving large mathematical problems using computer power, which requires a lot of electricity use. We know that electricity use is associated with often fossil fuels that are necessary to generate the electricity, which creates CO2 emissions that cause climate change. Now, the best solution for countries is, what we usually advocate, is to have a general carbon tax to say, "Well, the polluter should pay for the damage that it causes through these activities." But many countries don't have carbon taxes on their emissions. They could still have a carbon tax or a tax on the electricity used by these proof of work mechanisms related to-

Bruce Edwards:

So some kind of tariff...

Ruud De Mooij:

Yeah, so that the polluter pays principle applies, at least, to these activities, and this is something that, for instance, the U.S. has now proposed a 30% tax on electricity used by crypto miners.

Bruce Edwards:

So how feasible do you think that is?

Ruud De Mooij:

I think it should be feasible, and if it's not feasible, there's other ways also that governments can do in taxation. For instance, they can say- miners can currently deduct the cost of electricity from their income tax, but we can deny this deduction. This is an alternative way to achieve this, so I think it is achievable, and the emissions, the global emissions, as a result from crypto assets, is not insignificant. So we made some calculations. It is about 0.3% of total global emissions, which is quite a significant amount.

Bruce Edwards:

So finally, your research clearly shows that most of crypto wealth is held by the world's wealthiest people. What would finding a solution to taxing crypto mean for tax fairness globally?

Ruud De Mooij:

Well, this is important. As you say, the crypto wealth is highly concentrated. It's, for instance, much more concentrated than shares, and we know that shares are already highly concentrated among the top wealth individuals, so ensuring that people with crypto assets are taxed on their capital gains, are taxed on their income if they're miners, is part of a fair tax system. The perception that these people with very large wealth and very large incomes find easy ways to evade it because they can be anonymous and because they can basically fail to comply with the tax, undermines the fairness and the cohesion of the tax system itself, and so I think it is really important for governments to address the issue of taxing crypto also for the perception of fairness of the tax system.

Bruce Edwards:

Yeah. So I assume that any efforts toward finding a solution to international taxation, international corporate taxation will have to include crypto, right?

Ruud De Mooij:

Well, as I said, what countries are currently pursuing is exchange of information. I think that's the most important international issue, because if one country imposes very strong regulation with high taxes on crypto assets, then people who want to have crypto may do the exchanges in another country, which can be quite simple, because you just need an IP address and do the trades there. I think that's the kind of evasion that can be mitigated by having this information exchange between countries, and I think that enables basically all countries to have better regulations to address the issue of tax.

Bruce Edwards:

Ruud De Mooij is a Deputy Director in the IMF Fiscal Affairs Department. Thank you so much.

Ruud De Mooij:

Okay. Thank you.

Bruce Edwards:

Again, that was IMF economist, Ruud De Mooij, talking about his research on the tax treatment of crypto. Check it out at imf.org.

You can also read the blog at imf.org/blogs.

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I'm Bruce Edwards, thanks for listening.