Speech

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Crypto-assets today and in the future

I am pleased to have been invited to discuss this interesting and highly complex topic here at the Royal Swedish Academy for Engineering Sciences.

The Swedish FSA's purpose is to ensure well-functioning markets, financial stability, and a high level of consumer protection and promote sustainable financial services markets. In practice, this means we should pre-empt crises, ensure consumers are well protected, and consider the environmental impact of financial services.

Tonight's topic is crypto-assets. And there is a lot to discuss here, in particular because it is an issue which is relevant for all of the Swedish FSA's objectives.

First, let me say that I think that the technology underlying crypto-assets has potential. Blockchain and the distributed database technology could be used within a number of sectors. For instance, they could increase efficiency in share trading. They could also be used to increase resilience against ever-increasing cyber attacks. There are also a number of different types of crypto-assets. For example, so-called stablecoins are a crypto-asset that is pegged to an asset or currency, such as the US dollar, to ensure a more stable value. Some people believe that stablecoins could be used in the future to facilitate cheaper payments and transfers in parts of the world where these transactions are currently very difficult or expensive.

At the same time, the Swedish FSA has been clear that we see a number of challenges and risks associated with the large crypto-assets available today.

Just like other authorities around the world, we have highlighted that the high price volatility and valuation challenges mean that consumers who buy crypto-assets could lose a lot of money. The week before last, the price of bitcoin fell by 20 percent. There is nothing to stop it from falling another 20 percent this week or for it to rise 20 percent and then fall 50 percent. Crypto-assets are also not subject to the usual consumer protections we take for granted in financial services. Last spring, we published a supervision report in which we stated our view that financial instruments with crypto-assets as an underlying asset are unsuitable for most, if not all, consumers.

The investor protection risks associated with crypto-assets are so significant that a number of countries have introduced bans on crypto-assets. For example, in Europe, the FCA, the UK's financial supervisory authority, banned sales to retail customers of the majority of financial instruments connected to crypto-assets.

And the risks associated with crypto-assets are not restricted to investor protection. The Swedish Police identified crypto-assets as a means for illicit trading, money laundering and terrorist financing. And although we don't believe the financial stability risks are large today, it is possible that the value of crypto-assets, or financial institutions' exposure to them, will become so large in the future that these risks will become more significant. This is also something the IMF highlighted recently[1].

In addition, the methods used to produce some crypto-assets have a very significant environmental impact. The reason for this is that the CPU-intensive blockchain technology Proof of Work, which I am sure you are all familiar with, uses a lot of electricity. Independent estimates from, for example, the University of Cambridge report that the combined annual electricity consumption of the two largest crypto-assets, Bitcoin and Ethereum, is roughly twice that of Sweden's consumption as a country.

This electricity consumption is a problem today, and there is a risk that it will become a very large problem if the current level of interest in crypto-assets is sustained. Carbon dioxide emissions related to crypto-assets could become very significant if production is based in countries that are heavily dependent on fossil fuels. Likewise, if crypto-producers locate to countries with access to a greater degree of renewable energy, the diversion of

[1] Source: https://blogs.imf.org/2021/12/09/global-crypto-regulation-should-be-comprehensive-consistent-and-coordinated/

renewable energy for crypto-production could threaten these countries' ability to meet their climate goals.

Ultimately, this is about energy efficiency. Energy is a scarce resource, and as a society, we have invested heavily in energy-efficiency improvements across all sectors. We need to consider a similar technology shift for crypto-assets. The fact that some crypto-organisations are already utilising more energy-efficient methods demonstrates that this is possible. The developers of the second largest crypto-asset, Ethereum, are already planning a shift to a more efficient method. Developers of Bitcoin, however, have not commenced a similar technology shift. This means that the environmental risks associated with the Proof of Work technology is likely to remain for some time, and given our sustainability objective this is something that we need to consider.

So, in light of the identified consumer protection, criminal and environmental risks – what should be done?

When it comes to products or services that pose risks to individuals or society as a whole, the State has at its disposal a number of tools. The least interventionist of these are to

- Influence demand by issuing information relating to product risk. For example, tobacco products are sold with a warning text on the packaging.
- Introduce rules on the sale or holding of a product. For example, all alcohol sales are regulated in Sweden.
- Impose taxes or remove existing subsidies in order to influence the price of products, and thereby also demand. For example, carbon dioxide emissions are taxed.
- Impose rules or bans on a type of activity or sales in order to influence demand. For example, there is a ban on the sale of halogen lightbulbs in the EU.
- Regulate or ban a certain type of manufacturing. For example, there is a ban on the use of certain types of freons in refrigeration that are deemed to be environmentally harmful.

We can refer to these tools when considering how best to address the environmental impact associated with the Proof of Work technology.

When it comes to product information, this speech is one example of intervention by the Swedish FSA. By drawing public attention to the

consumer protection risks associated with crypto-assets and the environmental risks associated with their manufacture, I think we can contribute to a more balanced view of these assets. This may also dampen demand for these products.

We also see a need for new regulation regarding the trading of crypto-assets. We are pleased that new European legislation – the planned MiCA regulation – is undergoing negotiations.

But even if greater consumer information and regulation may dampen demand and risks associated with these assets, we also need measures to make the production of crypto-assets less energy-intensive. Globally co-ordinated taxes on CO_2 emissions could play a central role here by increasing the costs of crypto-asset mining to reflect the environmental harm it causes. And I want to emphasise here that this would require a great deal of co-ordination between countries since the production of crypto-assets is highly mobile and could easily move across borders.

But given the large demand for and focus on crypto-assets, there is a risk that providing more consumer information would be insufficient. It's with this in mind that we have considered options like an outright ban. Let me expand a bit more on our thinking here.

First of all, there is the question of what would be banned. As I mentioned previously, bans are often applied to the use or sale of harmful products. This is because, in our global economy, it is easy to move production that has been banned in one jurisdiction. A ban on the use of crypto-assets within the EU, however, could significantly affect demand and shrink the size of the crypto-asset market, thereby also shrinking the environmentally harmful production. However, such an intervention should be viewed as exceptional. It would be highly challenging to enforce such a ban in practice. And in order to be fully effective, the global market would have to reach an understanding.

With this in mind, together with the Environmental Protection Agency, we have recommended that the EU consider whether a ban focused on the energy-intensive crypto production could be justified. As mentioned, the challenge here is that production most likely would relocate outside of the EU and instead become established in countries where the production could lead to even greater carbon emissions. But a ban in the EU could also

increase the incentives for other countries to also take action against the energy-intensive method of crypto-asset production.

Let me conclude by emphasising the importance of remaining humble when considering technological innovation, the advantages and risks associated with it, and future developments. The Swedish financial services market is innovative and constantly developing new creative solutions and services. What I am talking about today is how best to handle the associated risks. And that is our job here at the Swedish Financial Supervisory Authority.