

**Tim Phillips [00:00:09]:**

Welcome to the latest episode of VoxTalks Climate Finance with me, Tim Phillips, and hello to my co host, Alissa Kleinnijenhuis.

**Alissa Kleinnijenhuis [00:00:17]:**

Hi, Tim. It's great to see you.

**Tim Phillips [00:00:20]:**

It's great to see you. You're a long way away from me today in Istanbul. That's the magic of the Internet. Always on these climate finance episodes, we're asking the big questions. We've got another one today. And the question is, do financial markets price transition risk correctly? If not, why are they not doing that? And what should firms and governments do about it? Alissa, who's going to help us investigate this?

**Alissa Kleinnijenhuis [00:00:51]:**

Today we have the pleasure of having Alex Edmans join us on VoxTalks Climate Finance, and he's a professor at the London Business School. Welcome, Alex.

**Alex Edmans [00:01:02]:**

Thanks, Alissa. Thanks, Tim. It's great to be here.

**Tim Phillips [00:01:04]:**

Okay then, Alex, straight into this. This all hinges on something that we call the carbon premium. Tell me, what is the carbon premium? And in theory, what does that represent?

**Alex Edmans [00:01:14]:**

So what is the carbon premium is an easy question, which is the fact that stocks that emit more carbon have higher realized returns than stocks that emit little carbon. But the second question is more tricky. What does that premium represent? Why do they earn higher returns? There's two explanations. First is those higher returns are compensation for higher risk. Emitting stocks are riskier because there's the risk of a carbon tax. And in order to encourage investors to hold those stocks despite that risk, they need to offer a higher return. But the second reason is that it could be just outperformance. These higher returns are a freebie. These stocks are actually not riskier than stocks with fewer emissions. They just outperform. They have higher profitability. And that could be a second explanation.

**Alissa Kleinnijenhuis [00:02:01]:**

So if carbon transition risk would be insufficiently priced, if that's the case, what would be the impact in the real world?

**Alex Edmans [00:02:10]:**

So this insufficient pricing would be the second interpretation of what I had. It suggests that actually emitting stocks are outperforming. They're not riskier, they're just earning higher returns.

And therefore the impact in the real world would be quite profound. This means that as an investor, you don't really do well by doing good. Often people think, well, if you're investing in emitting stocks, you'll suffer because you're going to be exposed to carbon transition risk. But actually, if you're getting higher returns without negative consequences in terms of risk, then actually you can get away with just having portfolios exposed to carbon emissions. We often think that climate risk is investment risk, but if the high returns from emitting stocks are outperformance, then it's not investment risk. Climate risk is investment return.

**Tim Phillips [00:02:54]:**

Alex, looking at the previous research on all of this, is the evidence that we have so far that this climate transition risk has been appropriately priced or not?

**Alex Edmans [00:03:04]:**

I don't think so. And so that's what motivated the paper that we'll, I'm sure, discuss shortly. So there was an influential study by Patrick Bolton and Marcin Kacperczyk, two top tier economists, which found the carbon cream that you mentioned, emitting stocks earn higher returns than less emitting stocks. Their interpretation of that was due to risk. It's because these emitting stocks are riskier. That's why they have to offer higher returns. And that interpretation is absolutely a plausible and reasonable one. But my point here is there's an alternative interpretation. And I think this alternative interpretation is far from fanciful. If you look at the ESG literature more generally, typically, people find high returns to high ESG stocks as evidence of greater outperformance, not of risk. For example, one of my own papers finds that companies that treat their work as well have higher returns. And nobody argues this is because it's risky to invest in companies that treat their work as well. And you'd only be wanting to invest in such risky companies for high returns. Instead, they say it's mispricing, it's outperformance. These are companies that do even better than they should. They're not riskier. Yet they are still outperforming because the market is getting it wrong. And that's why Alissa previously mentioned the term mispricing in her last question to me.

**Tim Phillips [00:04:23]:**

Alissa, I bet you've got an opinion on this.

**Alissa Kleinnijenhuis [00:04:25]:**

I think I fully agree with Alex. I would just say that besides the pricing of climate transition risks, there's of course also a need to price climate, physical risks, and also the risk related to nature. So there's new literature that is also emerging on the degree to which biodiversity risk and physical risk is priced.

**Alex Edmans [00:04:43]:**

And I think this distinction between physical and transitional risk is important. So what is the difference? So physical risk are risks which companies are bearing. So if you're a real estate company with some waterfront properties, you're bearing the consequences of climate change. And it's logical that that risk should be priced because you are suffering if there is a warming

planet. However, with transitional risk, these are risks which are borne by companies which contribute to global warming rather than are affected by global warming. And it's far from clear that you will bear these consequences, because this is what economists often call an externality: you're the person who's contributing to climate change. While it might be clear that as somebody who suffers from climate change, your stocks will be underpriced. If you're the polluting company who is emitting carbon and making the problem worse, you might not bear the consequences if there is not, say, a global carbon tax.

**Alissa Kleinnijenhuis [00:05:39]:**

And that's of course, at the heart of the problem, that those that pollute are not suffering the cost.

**Tim Phillips [00:05:45]:**

Now, specifically, you have been studying the link, haven't you Alex, between carbon emissions and earnings surprises, to discover whether this mispricing exists. If there is mispricing, what would you expect to find?

**Alex Edmans [00:05:59]:**

If there's mispricing, what you'd expect to find is a positive earnings surprise. So what do I mean by a positive earnings surprise? Every three months in the US, companies announce their earnings. And before they announce their earnings, you have analysts such as my former firm Morgan Stanley, or Goldman Sachs or UBS. They predict what the earnings will be. And so an earnings surprise is if companies do better than analysts expected. And so that's a sign of mispricing. The market got it wrong. The market thought that earnings would only be moderate, yet earnings happened to be much higher than that. And if that is what's causing the stock price to go up, then it's outperformance, which causes the stock prices to be higher rather than greater risk. And notice that that is a pretty standard test. So, in my paper and employee satisfaction, to show that companies that treat their workers better are outperforming, rather than just riskier, I had to do this earnings surprise test. We would like to believe that the market is getting it right. We'd like to believe there's correct pricing. But I wanted to look at, well, we can't just take that for granted because we want it to be true. Let me perform this pretty standard test. The paper I wrote is only sort of ten pages long, because this is something which is pretty standard. And unfortunately for the planet, what we found was there's significant mispricing. These companies which emit a lot of carbon, number one, they deliver higher earnings than what the market expected. And number two, on these earnings announcement dates, they have a stock price rising. And if we just take those four earnings announcements, in a year that already accounts for 30% to 50% of the carbon premium. Again, the bottom line is, why do emitting companies have higher returns than non emitting companies? Because they have higher earnings, not because they're exposed to risk.

**Tim Phillips [00:07:48]:**

You set this out for me, Alex. Why is this persistent mispricing happening?

**Alex Edmans [00:07:53]:**

I think the main reason is that climate risk or carbon emissions are a pure externality. This is something where you can contribute to global warming, but you don't bear the consequences of it. So if you're a company and you choose to not invest in carbon abatement, then you're improving your profits. And that's why you're doing better than what analysts predicted. Maybe analysts think that there is some normal level of carbon abatement that company should do. But if you deviate from that and you invest less, you're able to get away with this. This lack of policy action, which many people are concerned about, is what may well be behind the patterns in the data that we find, why companies are able to get away with contributing to global warming.

**Alissa Kleinnijenhuis [00:08:37]:**

So the four earnings announcements each year account for 30% to 50% of the carbon premium. What does the other 50% to 70% that is not explained by the earnings surprises represent?

**Alex Edmans [00:08:50]:**

And that's a really important question. So where does that 30% to 50% number come from? All we looked at was the three day window surrounding the earnings announcement. And this is all in order to try to focus on just the announcement itself. But there is a phenomenon well documented in finance called the post earnings announcement drift, which is the market might be slow to respond to earnings announcements. So maybe we're being overly conservative at just looking at a three day window. So when we've moved from a three day window to a seven day window, why do we choose seven? You start one day before the announcement and five days afterwards, then we actually find out it's 40% to 60%. And maybe if we expand it beyond seven days, maybe we get something higher, but that still might not get to 100%. So where does the rest come from? It could be that there's other announcements that companies make, not just earnings announcements which cause the stock price to rise. Often companies will issue earnings guidance in advance of an earnings announcement, telling the market or telling analysts, hey, our earnings are going to be higher than what we thought. And so that might reduce the actual surprise on the announcement because they've given some of the information away beforehand. But we also can't rule out the fact that some of the premium could be due to the market pricing it. So we're not saying the market is getting it completely wrong. Often things are in the middle, but certainly the prior interpretation that is entirely or predominantly due to correct pricing isn't there. So in reality, maybe the market does realize a little bit that emitting companies are slightly riskier. But that's not accounting for the entirety or even nearly all of the carbon freedom that we see. Mispricing is something which is significant.

**Alissa Kleinnijenhuis [00:10:32]:**

So are you saying, Alex, that Bolton and Kacperczyk, who think that the carbon premium represents transition risk, and your paper, which shows that there's also an element of earnings surprise, that maybe both can explain the carbon premium?

**Alex Edmans [00:10:47]:**

Yes, I think so. And we wrote our paper, we don't believe that our paper is necessarily

contradicting prior work. So we find similar results to what they find. I have huge respect for those authors. We just have a different interpretation. And in economics more generally, few things only have one interpretation. But we feel that the profession, not Bolton or Kacperczyk, but maybe the profession in general, they've been really eager to accept this one explanation because that suggests markets are efficient, finance is working, people are forward thinking, but in reality, things are less rosy than people have interpreted. There is a significant amount of mispricing going on, even if part of the risk might be captured.

**Alissa Kleinnijenhuis [00:11:24]:**

So what are the implications of your results for how we should be interpreting the carbon premium?

**Alex Edmans [00:11:31]:**

So what our research suggests is that any premium, not just the carbon premium, always has two interpretations. In Finance 101, we can learn that premiums are either because of risk or outperformance, but often because of confirmation bias. We might rush to have the interpretation that we want to be true because ironically, when I wrote my paper in employee satisfaction, which was ten to 15 years ago, that was before people cared about ESG back then. And so when I found the premium, people were rushing to argue it was because of risk, not because of mispricing, they didn't want to believe the ESG friendly result, that employee friendly companies were doing better. So they required me to do the earnings surprise test in order to rule out that explanation. But nowadays, because the ESG friendly interpretation is that people now are all pro ESG when they were anti ESG ten to 15 years ago, they want to interpret the high premium as evidence of risk. And so they didn't require this test, which is a standard test. And that's why I think it's always important to do this. And notice again that the fault is not Bolton and Kacperczyk, if you look at papers which quote their findings, even survey papers on climate risk by some of the leaders in the profession, they will quote this paper as having found that emitting companies have higher expected returns or higher cost of capital. Yet we know from a basic PhD course in finance that any premium has two interpretations. We should investigate both interpretations rather than jumping on the one that we want to be true.

**Alissa Kleinnijenhuis [00:13:07]:**

Kruger, Soundner and Starks in 2020 found that improving investor returns is a major motivation for investors to incorporate climate risks. Your evidence suggests that avoiding firms exposed to transition risk may actually decrease investment returns. So how should investors be thinking about the possibility to do well by doing good?

**Alex Edmans [00:13:30]:**

I think they should need to recognize that there are trade-offs. We'd love to believe that you can always do well by doing good. And some of my research might support that. If you invest in companies that treat their employees well, you earn higher returns. But it's just naive, I think, to think that every single thing that is good for society is always going to be good for shareholders. This is the problem of externalities. And so my research finds that sometimes there are these

difficult trade offs. Now somebody can look at my results and say, well, I don't care. I think that climate change is so important that I am still going to avoid these emitting companies, even if holding them would give me high returns. And that's absolutely fine. All my research is saying is that there is a trade off. I'm not telling you what to do. I'm just saying that there are certain return consequences of your actions. But this whole idea that climate risk is investment risk, it's trotted out by many people, and people believe it to be true, perhaps because of confirmation bias. Unfortunately, what we want to be true in the real world is not necessarily true. And so my research is trying to highlight that.

**Alissa Kleinnijenhuis [00:14:30]:**

Is it absolutely fine? Because we are witnessing a backlash in many parts of the world against ESG, that is, arguing that executives will be breaching fiduciary duty by investing in ESG. Should firms that invest in emission abatements to align with net zero goals be worried about being held accountable for breaching fiduciary duty?

**Alex Edmans [00:14:51]:**

It really depends on what you're doing to invest in emissions abatement. So there might be some projects which are positive NPV and other projects which are negative NPV. And so we can't make general claims about ESG being good or bad. Instead, we need to look at it on a case by case basis. So certainly if the backlash against ESG were to be in a form saying, don't always do every single ESG investment, because some of them would actually reduce shareholder value, that I'm happy with, and that is consistent with my evidence. But unfortunately, some ESG components have said never do anything which is pro ESG and that's not supported by the evidence. There are certain things which do well and do good. There are other things where there are trade offs, but we can't just make blanket statements about there never being a trade off or there always being a trade off. Certain things there is a trade off and certain things there aren't. So just look at the specific project that you're contemplating in order to cut carbon emissions before deciding whether or not that's going to be good or bad for shareholder returns.

**Tim Phillips [00:15:53]:**

So let's take one step back from this, Alex. If I understand it correctly, there are some firms that are under investing in lowering emissions because they can get away with it at the moment. So is there something that government should be doing in response to this?

**Alex Edmans [00:16:10]:**

Yes, which is to address the externality. So what you've described Tim is a market failure. So this is where companies have an impact on society and they ultimately do not suffer from that impact. And so the goal of government here would be to tax a negative externality or alternatively subsidize a positive externality. And that might be, say, an investment in clean energy.

**Tim Phillips [00:16:33]:**

If low emissions companies on the other end are sacrificing shareholder value, could it be that they've created internal incentives to do that, to pursue those goals of which their shareholders wouldn't approve?

**Alex Edmans [00:16:48]:**

It could be. And so that's an example of an agency problem where CEOs, executives are pursuing their own social benefit, even if shareholders wouldn't approve. But unfortunately, it's more complicated than that, is that actually shareholders might approve it because shareholders might not realize that there is a trade off, because this idea has always been pressed, which is climate risk is an investment risk. Shareholders might be approving this and thinking, well, it's good for companies to invest in emissions reduction technology, not only for the planet, but also for my investment returns. And so my paper was saying, no, that there is actually a trade off. Again, it could be that despite the trade off, you could still legitimately think that the climate is so important that you're willing to sacrifice some returns. All I'm saying here is that there is a sacrifice. And therefore, as an executive, you can't automatically make that investment decision without first finding out from your shareholders. Are they willing to make that sacrifice?

**Tim Phillips [00:17:49]:**

We've got another paper of yours to discuss, provocatively titled The End of ESG.

**Alissa Kleinnijenhuis [00:17:56]:**

Is it possible to find a firm today that is not talking about setting targets for ESG? So why are you calling the end of ESG? That sounds paradoxical.

**Alex Edmans [00:18:08]:**

Yeah, it seems a crazy title. It seems that I haven't read the room or I haven't read the newspaper.

**Tim Phillips [00:18:14]:**

It's a pretty big room, Alex.

**Alex Edmans [00:18:16]:**

So when I talk about the end of ESG, I'm talking about the end of ESG as a niche field. So the term ESG, it unfortunately provokes some strong reactions. So one reaction is that it only matters for ESG specialists. So if you're an investor running an ESG fund, you should care about ESG. But if you're a mainstream investor, you shouldn't. And I'm trying to make the point that these ESG issues are important for everybody, because if some ESG factors can improve your long term financial return, any investor should care about this, irrespective of whether your fund has an ESG label. This is also true for people within the company. Even if you're a mainstream executive, a CEO or CFO, rather than somebody in the ESG or corporate social responsibility department, you should care about ESG factors. Why? Because many of them will ultimately affect your long term performance. And it's also true regardless of your political persuasion. So what really troubles me in the US is this view that if you are a true republican,

you should be anti ESG and try to ban ESG. But if indeed some ESG factors can improve the long term performance of business, and Republicans claim to be the party of big business, then they should be much more accommodating and embracing of ESG rather than trying to end it.

**Tim Phillips [00:19:38]:**

Yes, I note that in a recent report from Pleiadi Strategy, they report 165 pieces of legislation in the US that were framed around restricting the use of ESG and investment criteria. Now, this backlash against woke capitalism, this doesn't sound like what you're saying with the end of ESG. You're saying something entirely different here.

**Alex Edmans [00:20:02]:**

You're correct, Tim. And so by the end of ESG, again, I'm suggesting ESG should not be seen as something niche, it should be seen as something mainstream. We shouldn't try to do something special for ESG that we wouldn't do for any other driver of long term performance. You would never have legislation restricting investors from incorporating brand or management, quality or corporate culture in their investment decisions. We can leave it up to investors. Now, there might be some investors who don't think they matter as much as cash flows or quarterly earnings, but those investors make their decisions and base their investment decision based on what they think is the most important criterion. But you would never just ban them from taking certain things into account. And certainly I think this idea about banning somebody from using ESG criteria is crazy. Reasonable people can disagree or agree as to whether ESG drives long term financial returns. If you believe they do drive the returns. You should be free to consider them. And if you don't believe they're important, then you should be free not to consider them. But there's no need for legislation to do this. I think sometimes this legislation might be politically motivated to win some support from certain groups.

**Tim Phillips [00:21:31]:**

Yeah. Hence the way you describe it, ESG being extremely important. Yes, but also nothing special. Now, we do care about ESG, as we have been discussing a few minutes ago, because of the externalities that firms impose on society. And I know in this paper you've written that by definition, externalities don't affect a company's profits, even in the long run. I didn't understand that. What happens if regulators start taxing externalities like carbon in the future?

**Alex Edmans [00:22:00]:**

So the core of my argument why I argue that ESG is nothing special. We've covered the extremely important part already. The nothing special point is that, yes, ESG does improve long term financial performance, but there's so many other things that improve long term financial performance, such as brands, such as management quality, such as corporate culture. And so there have been people who've got overly excited about ESG, where they put even more weight on ESG factors than these other long term drivers. For example, if you're an investor and you engage with the company and you tell it to improve its ESG, maybe by reducing its plastic packaging, you get more brownie points than if you were to tell it to just be more productive or more innovative. And so this is why I say ESG is nothing special, because there's many ways to



improve long term financial return. ESG is not the only way, so it should not be put on a pedestal. But then people respond to me and they say, well, ESG is special in the following way. ESG not only improves long term financial value, but it has externalities on wider society. So we do want, as investors, to pay more attention to ESG because of those externalities. But my response is twofold. The other factors that I mentioned also have externalities. If a company is unproductive, then it's using more to produce less. That's something with huge negative effects on the environment. So standard factors like productivity also have externalities. And number two, as you say, Tim, if it is that regulators start taxing the externality, then there will be even less of a difference between ESG factors and other factors, because that externality argument would go away because most of these externalities will then be internalized and affect long term financial returns.

**Alissa Kleinnijenhuis [00:23:49]:**

So do you believe it is important that climate risk disclosures are made mandatory?

**Alex Edmans [00:23:54]:**

So first, what do we mean by climate risk disclosures? So often people think, well, these are your carbon emissions, but actually climate risks might be your sensitivity to climate change, not your contribution to climate change. And so how we typically think of the word risk, that's how vulnerable you are, not how much of a perpetrator you are. If you think about, say, beta, that is your sensitivity to the market, it's not your impact on the market. The disclosures that we're requiring on companies are your contribution to climate change, when maybe what would be more important is true risk, true vulnerability, how would you be affected? Your business? By an increase in the temperature by one degree or something like that. But then, number two, there are many other things which could be risks. So what are the risks of your company failing to be innovative or failing to have a good succession plan? There's lots of these other risks as well, and it might be that we want to require disclosure of them to investors as well. But there's no reason, I think, for just highlighting climate risks when there's lots of other risks out there. It could mean that as a company, you focus on those climate risks and not on the other risks, which are also important for a company's long term financial sustainability. Because you know that you are going to have to have disclosed the former and maybe not the latter.

**Alissa Kleinnijenhuis [00:25:11]:**

But we do know, right, that not all risks are equal. Perhaps the risk that is magnitudes bigger than all those others is the climate risk. We know that we are currently not living in a world where the government addresses all externalities, and this looks unlikely to change anytime soon. We're only having 23% of carbon externalities priced nowadays. And even those carbon emissions that are priced are often priced below the social cost of carbon. If all firms continue to emit like we do, we are very much at risk of crossing climate tipping points, where all of a sudden, large part of the earth will become uninhabitable. The economies in those uninhabitable parts will be nonviable, and there will be no profit streams that can be reaped from those regions. So how do you think about how catastrophic climate risk prices linked to long term value? And is that not the factor that is so many more magnitudes bigger than the other risks

that you outlined, and therefore should be separately considered?

**Alex Edmans [00:26:11]:**

Well, the argument they make, Alissa, is a compelling one. It's one that I hear a lot of people making. But let's try to pick this apart. So, large parts of Africa, uninhabitable because they have no access to electricity. 600 million people in sub Saharan Africa have no access to electricity. So it's fine for us in the west to talk about transition risk and transitioning to a low carbon economy. There's 600 million people who have nothing to transition from. They don't have one of the basic factors of modern society, which is electricity. Another thing which makes a place uninhabitable is no access to food. And so what is one thing which can give you access to food? Ammonia. So this is in the great book how the world really works by Vaclav Smil, which this goes into fertilizers, allowing people to grow crops. The production of ammonia is carbon intensive. And if we are to only focus on the climate impact without trying to focus on these other issues, those are things which make other countries uninhabitable as well. And it may be for us because we are lucky enough to have electricity. And for many people, it's actually, the problem is too many calories, not too few. We might underestimate those risks. So this is absolutely not to underestimate the magnitude, the scale, intensity of the climate crisis, but it's to highlight there's also other problems which maybe a lucky person like me might not otherwise be cognizant of. And so these trade offs are really, really tricky. Yes, we could argue that the climate risk is so important that we must do everything possible, whatever it takes, because there's a common phrase to reduce our impact on the planet. But we also need to take into account the fact that hundreds of millions of people are malnourished and they don't have electricity. And so these are things which we also need to take into consideration, even if our concern is not just financial return, but also social development.

**Alissa Kleinnijenhuis [00:27:55]:**

I agree that there's always a trade off. But of course, it is the case that the projections under current business as usual are that also large parts of emerging and developing market economies in Asia would become largely uninhabitable or not very viable to life. So there's a lot of economic value that can be lost in the long run if we continue on this current path.

**Alex Edmans [00:28:14]:**

Talk me through one of the studies that shows that.

**Alissa Kleinnijenhuis [00:28:16]:**

So there's a set of papers by Timothy Lenton, one of the foremost climate scientists in the world. They have made projections of how the weather patterns would shift on their business as usual and what parts of the earth will become very hard to live in. And that coincides with a lot of the areas in Asia. If we continue as we do, then a lot of the economic value is at risk of being lost.

**Alex Edmans [00:28:38]:**

How do we calibrate where the tipping point is?

**Alissa Kleinnijenhuis [00:28:40]:**

We've already crossed one tipping point, which is the long term melting of the western Arctic. That's not yet catastrophic, but that's the real risk that we're facing as society from climate change.

**Alex Edmans [00:28:50]:**

The reason for this is not to put you on the spot, but these things are very complex things. And so I know there are a lot of people, just like people claimed, climate risk is an investment risk. And therefore my paper tried to delve into this a bit more detail here. There are a lot of these claims, and I'm certainly somebody who believes in the climate science, and I believe that climate change is really important. But sometimes when we think about, okay, all of these catastrophic outcomes, there could also be lots of catastrophic outcomes if people don't eat or if people have no access to electricity, this could lead to spreads of diseases and so on. So we want to look at all the evidence behind this. People claim, okay, if we don't hit 1.5 degrees, exactly, that is a tipping point which will cause the world to go into oblivion. Why would it be that that round number is going to be exactly where the tipping point is calibrated? Again, I think if you read it, sort of more nuanced work, like Vaclav Smil's work, I think these things are more complex than often portrayed.

**Alissa Kleinnijenhuis [00:29:45]:**

What is very clear from the climate sign is that we are not very far from crossing regional tipping points. So there are catastrophic risks associated with continuing to admit where at some point we are sure to cross these tipping points. That should be some motivation for long term investors to incorporate those risks into how they invest.

**Alex Edmans [00:30:05]:**

But if you say we're sure to cross the tipping points, then why should investors do anything? Because if we're sure across them, then there's no need for climate action.

**Alissa Kleinnijenhuis [00:30:12]:**

This is my next question. So large institutional investors have a systemic exposure to the economy, and so they have an incentive to invest in getting the corporations to reduce their emissions. Certainly if in the long run there are large climate risks, because in that case it would create long term value for them. Of course, we know that most of the investors are not large scale investors. There are lots of smaller investors too, that are possibly too optimistic to, through their long term investors, really change the health of the long term economy, which is based on the health of the planet. And so they may lack an incentive from returns alone to internalize the negative externalities that they cause. How can smaller investors be helpful in saving the planet? And would they have incentives to sacrifice financial returns, even though they may not be able to affect long term outcomes of the economy and the health of the planet in which it's embedded?

**Alex Edmans [00:31:03]:**

The question that you ask is a very sensible one, and it's one that I've heard many times, is that large investors have systemic exposure. Often people argue this is universal ownership theory. They own everything, and therefore they have an incentive to take these externalities into accounts. But when you pick apart that argument, I think it just falls apart quite simply. And I've never seen any convincing theory of universal ownership. So, first, the idea that because you own everything, you have an incentive to decarbonize isn't true. Things are more complicated than that. Actually, there's many sectors that benefit from a warming planet. So if you are involved in climate change mitigation, such as air conditioning, you actually do better if the planet is warmer. So it's not necessarily the case that all these companies out here are suffering from negative externalities. If there's a warmer planet, some companies benefit and some companies lose out. So it's not clear that a universal owner has greater incentives to take this into account. Second, often people think a universal owner, well, they own the universe, they own everything, but this is not the case, right? Often we think about a sovereign wealth fund as a universal owner. Sovereign wealth funds typically will have a home bias if indeed the companies that will be affected will be agribusinesses in the equator who can't grow crops. Are you typically holding that? Do you have the incentive to take these externalities into account? It's not clear. And finally, there's many externalities which are externalities which have no effect on companies. For example, if you bleach the coral reefs and then just make life far less beautiful, the effect on society and on just the beauty of life, I think, is far greater than the effect on any company's profit. So I think the idea that universe owners are a panacea, or even close to that, is not so clear. And therefore, the idea that small investors are significantly less powerful than large investors, again, that's not clear either. So often we like to say large owners, they're really powerful, and small investors are not so powerful. I think both types of investors, they have the same tools at their disposal and also the same challenges. And then, should small investors sacrifice financial returns to save the planet? I think it's difficult for me to say what a small investor should do because it's their money.

**Alissa Kleinnijenhuis [00:33:15]:**

Of course, you're right that most institutional investors are not universal owners, but they may still have an exposure to, let's say, Asia as a whole. And if Asia as a whole gets severely affected by climate change, they would still suffer from continued emissions on the point of coral reefs. At some point, if sea life dies, then all the companies in the economy will suffer.

**Alex Edmans [00:33:37]:**

There's many companies which are not affected by sea life. Would a fitness center be affected by sea life?

**Alissa Kleinnijenhuis [00:33:42]:**

If our economy depends also on the food production that we need to live? If sea life is harmed, then a fitness center would also be harmed because people need to eat, and there's no food anymore.

**Alex Edmans [00:33:55]:**

There's lots of other food than food from the sea, that there are people who are vegetarian, there are people who are vegan. So those people don't die, they don't rely on sea life. So again, we're turning stuff which is nuanced into black and white statements.

**Alissa Kleinnijenhuis [00:34:07]:**

But I am saying that there's more circularity than you perhaps suppose. But I agree that of course, there is a balance to our final question. So, in the previous episode, we interviewed Dirk Schoenmaker about his book *Corporate Finance for Long-term Value*. He argues that the purpose of the corporation should be to maximize a linear combination of financial value, social value, and environmental value, rather than just financial value. And unlike you, he believes that unless you would explicitly account today for environmental value and for social value, most investors would not attach appropriate value to it. So he's sort of arguing we should already fully account for the externalities today in the way we value the firm. And then at the time that it gets internalized by regulation, it becomes the same, if you like, as financial value. And so Luigi Singles and Oliver Hart wrote a paper in which they argue that one way in which you can perhaps get companies to change their purpose is to let shareholders, via proxy voting express any pro social preference they might have. So do you believe, a, that a shift of company purpose is desirable, as Dirk Schoenmaker argues? And b, do you believe it's feasible?

**Alex Edmans [00:35:23]:**

So again, I have enormous respect for all three authors, and I think conceptually, what they're saying does make good conceptual sense, but I think practically it's really, really difficult. So how can we maximize a linear combination of financial, social, environmental value when we can't actually value many of these things, even really approximately, as we've discussed in our really interesting conversations, there's a lot of complexities, a lot of nuances, a lot of interactions, many things. It's impossible to put even a rough measure on this. And therefore, if you do that, then how do we know whether the company's maximizing a linear combination? So if you shut down a polluting plant and therefore make a lot of coal workers redundant, is that maximizing social value because the climate is more important than those social factors? Or if you choose to keep it open because you realize that a lot of people still rely on electricity, fund fossil fuels on electricity, people rely on this industry for jobs, then you might say that that's maximizing social environmental value. So both decisions, closure of the plant and non closure of the plant, could be supported by this general objective function. Then it's not clear how the manager would make his or her decisions. So there's a great paper on this by Jill Fish and Stephen Davidoff Solomon called *The "Value" of a Public Benefit Corporation*. This idea that a responsibility should be to all stakeholders seems really seductive. But the value of that they have value in quotation marks, is actually really not clear, because it's very difficult to assess whether a company is truly maximizing value for all stakeholders, given these trade offs.

**Alissa Kleinnijenhuis [00:36:55]:**

I guess what Dirk Schoenmaker would argue, he would say, okay, you can actually attach a social value to, let's say, the CO2 emissions of coal, so you can assess the harm from continuing to pollute, and then you can assess the profit stream in the future from keeping the

corporation open. And then you balance those against each other to come up with what he calls integrated value. So what do you think of that idea? And indeed, what we show, by the way, in our paper called the Great Carbon Arbitrage, with Patrick Bolton, who you refer to and Tobias Adrian, is actually, there's a net economic gain from closing these coal plants because the future profits are much smaller than the benefits to society.

**Alex Edmans [00:37:34]:**

In a few weeks time, I'm going to be flying to the American Finance Association in San Antonio. I have to admit, I'm going to have a carbon footprint. There's going to be many, many economists who fly to San Antonio to go to this conference and have a carbon footprint. How can we see, well, what is this value? Are we maximizing a linear combination of whatever object function is? It's really difficult. Yes. There could be some great interactions which come from that conference which might not have happened otherwise. Maybe they spark research discussions, or maybe we're seeing papers that maybe if this conference didn't exist, we could have just read the papers online or had an online conference. These things are really, really complex. And so something which is really compelling in theory, I think, practically is very, very difficult. And so this is why I'd have caution behind thinking, okay, a big change in the purpose of the corporation is going to lead to outcomes which benefit everybody.

**Alissa Kleinnijenhuis [00:38:28]:**

Thank you so much, Alex, for this thought provoking conversation.

**Alex Edmans [00:38:32]:**

Thank you very much for such an engaging conversation.

**Tim Phillips [00:38:40]:**

And you'll want to know about those papers. So the first one, Does the Carbon Premium Reflect Risk or Mispricing? The authors are Atilgan, Demirtas, Edmans and Gunaydin. Published in 2023 as a European Corporate Governance Institute working paper number 940. Alex's other paper, The end of ESG that we were talking about, that was published in Financial Management, volume 52. That's 2023 as well. Open access, so you can get hold of that. They are both very short papers, but there's a ton of stuff in them.