



- 00:22** | **Cam Webster** | On this episode, we speak with David Ragan, Portfolio Manager of Mawer's international equity strategy. We get a feel for the current investing environment, what changes have been made to the portfolio as a result of that, and highlight holdings in the exciting worlds of nano memory chips, door locks, and materials.
- 01:02** | **Cam Webster** | Dave what's going on in the non-North American market that's maybe keeping you up at night these days?
- 01:20** | **Dave Ragan** | I mean, nothing's keeping me up at night—typically we focus on having good companies, good management teams, reasonable valuations—if you have a good company, hopefully they and the management team can react very well to any sort of outside shocks. If you start with a good company, you don't worry as much ... but there are risks that are kind of aggravating, particularly when you can see how they can hurt the global economy and the average individual. The trade war between China and the U.S. obviously seems to be in the news every day, with some new level of tariffs being slapped on...and there may be this perception that this helps American individuals—and maybe it does help some—but overall, you're going to end up paying more for products because they're produced in a place that's less efficient, produced in a place where there's higher labour costs...  
It's a net negative for the world. Personally, I hope it comes to a reasonable end.
- 02:23** | **Dave Ragan** | Obviously Brexit has been a few years of just a bit of a headache—no clear deal, and the EU doesn't want to give them an easy, clear deal because they want this to be punishment. They want the rest of the EU members to see that if you try and leave the Union, it's not going to be pleasant. And this will keep the Union together—they have to do this.
- 02:44** | **Cam Webster** | The line that we pick “good” companies and hope that management can

work through it—maybe expand on that a little more. I hope we don't just rely on management and say, "Okay, you guys deal with it." We are actually probing!

- 03:11 **Dave Ragan** Yes, we definitely don't just hope things work out, we do probe. But fundamentally, the reason we like to have strong companies—especially that have pricing power—is you don't know what the risk next week is going to be. So you want a company that has a very valuable product to its customers, where, if their costs go up by 10%, they raise those prices 10% to their customers—and there's no problem. That is a really fundamental core risk mitigant where you don't know what's going to happen. Obviously these risks are not new: Brexit's been going on for a while.
- 03:54 **Dave Ragan** When this was announced (that there was going to be a vote), and the polls coming out saying "there's a 52% chance that they stay" ... we don't have any vantage in calling that, so we weren't trying to. Our first step was talking to the companies. Generally you have production on mainland Europe if you're a UK company (if you have customers in mainland Europe). So you match production anywhere you sell. That's a very easy way to negate the costs here.
- 04:27 **Dave Ragan** We did a little bit trimming in some of our UK-specific stocks because obviously in this time of uncertainty, there's a very high likelihood that the pound would suffer—and it did after the vote went to exit. But the core mitigants were that businesses themselves made the right choices at having production where they have customers. They had very valuable products which customers will, and have been, paying higher prices for—if this was an increased cost for the UK producer.
- 04:58 **Dave Ragan** But the night of the actual Brexit vote—when it went a different way than the polls had implied—our reaction was, well, we know all our companies in our portfolio. We know the impacts. Croda actually probably benefits from Brexit, because they have more R&D based in pounds, and more sales around the world. And their products are the exact products I was describing before: if they think their prices are going to go up 10% in the next three months...today they'll raise the prices 12%, just to make sure.

They have amazing pricing power. And their costs of goods sold—their costs of R&D relative to the sales—has gone down, so the margins have actually expanded thanks to this.

So, that night we were buying Croda, we were buying Intertek—which is a testing company around the world based in the UK. It absolutely got hit (the share price), but the actual value of the company didn't change at all.

- 05:52 **Dave Ragan** So there was lot of good buying opportunities that night because we took that fundamental, bottom-up view. I'm assuming index investors just absolutely hammered the whole index. Passive investing doesn't care about the companies that are benefitting ... it's neutral for them. An index just sells it all. We got some benefits from those passive investors probably just blasting out a massive portfolio.
- 06:18 **Cam Webster** Okay, so that gives us some perspective on dislocations in markets actually creating opportunities if we have these companies that we know are resilient over the long-term.
- 06:29 **Cam Webster** Maybe we could transition from Brexit “when the vote came out/here's how it went” to March 2019: “we don't know what's going to happen.”
- 06:39 **Dave Ragan** Honestly, no idea. Any more than anybody else. This is trying to tell the future. We could spend a lot of time trying to get that crystal ball working, or we could spend our time finding better companies and understanding that the business' we have—that they're fundamentally pretty solid. And for the ones that are more UK-focused, we have a pretty good margin of safety on valuation.
- 07:06 **Dave Ragan** I'm not going to make a prediction. I don't know if it's going go through what's called a “hard exit” or if there's going be a quasi-deal, or if they're going to say, “hey, you know, people really didn't understand what they we were voting for originally...so let's give them another chance now that they kind of understand what it is, they understand the implications, they understand that sometimes some of their workers may have troubles remaining there, that some of their suppliers or customers are going to raise the prices, or there's going to be increased costs of actually doing business, and they might have to cut some of their staff. Or they might

lose their own jobs.”

There's a lot of implications that people are probably a lot more aware of.

07:53 **Dave Ragan** I'd love it if they did another referendum; it's probably not likely. But this whole process being painful is a net positive to the EU in general because the rest of it should have a more likely chance of staying together.

08:06 **Cam Webster** That's a good perspective!  
Let's shift a little bit to emerging markets and the importance of emerging markets in the portfolio. The component within the portfolio has come from about 20% to 17% now. Still a decent weight, but it's declining. Help us understand why it's declining: are you making portfolio moves to do that? Or is it just share prices coming back?

08:31 **Dave Ragan** There definitely have been active actions by us to reduce the weights of some of these stocks. There's been some great stories where we've had a stock, it's done incredibly well, so we've been selling them on valuation. Clicks Group out of South Africa is one example there.

08:47 **Cam Webster** What do they do?

08:47 **Dave Ragan** They're a drugstore company in South Africa; consolidating, growing very rapidly, very well-run. They actually have some of the management team of Boots, which is the UK's Shoppers Drug Mart. So, they understand that you put the pharmacy at the back, you take 20 minutes to fill a prescription, and you have people walk around cosmetics and other very high margin products. Where the traditional pharmacy is typically just a pharmacy...that means you have to get a lot more profits from filling prescriptions, rather than make the profits elsewhere. There's a lot of benefits to society and the country to have very efficient pharmacies that don't really need to make the money at the back of the pharmacy. And they can roll it around the world. So that's what Clicks has been doing, doing very well. It just got quite expensive.

09:37 **Dave Ragan** I don't know if there's an impact. If it's in South Africa, it's an absolutely stellar company—especially relative to a lot of the rest of the index. If you're a South African investor, and you have to invest in South Africa, this

is going to be top of your list. And you're going to overpay for this one, because you'd rather own that than some of the other terrible companies.

- ⌚ 09:57 **Cam Webster** [Laughs] Really? There's terrible companies in South Africa too?
- ⌚ 10:00 **Dave Ragan** Well there are terrible companies everywhere. That's fundamentally one of our biggest advantages—that there are terrible companies out there. And other investors—they're trying to guess when this terrible company is going to go from very cheap, or doing very poorly, to some trying to bid up the stock. And that's not saying the value of the company is higher, it's just people are trying to guess when somebody else will buy it. Or there's a short-term boost for this company for some reason... And we don't. We have our client base. We've been very clear we're long-term investors. We're not going to invest in every sector in any, every country. We're going to invest in the good quality companies wherever they are. Core to this emerging market weight that we have at all is because they're good companies.
- ⌚ 10:48 **Dave Ragan** We didn't buy Clicks originally because we thought: we want some emerging market exposure; we want some South African exposures. No, we bought it because it's a fantastic business, solid management team. Characteristics of it being an emerging market means that there's a lot of growth potential; there's a lot more drugstores that they can build. And there's that long growth runway. But on the negative side, you have a lot more issues with the government, you have a lot more volatility in the currency. Typically, in a crisis, the money travels from all the markets around the world back to the stable markets: Japan, the yen goes up; Switzerland, the franc goes up; the U.S. dollar goes up. People bring money home. So share prices going down affects the currency prices going down. That's a risk we're very aware of.
- ⌚ 11:41 **Dave Ragan** It's been a secondary thought in some of these trends. The primary thought's been, "let's harvest some of the capital that's gotten a little bit expensive for aiding expensive companies in some of these emerging markets." So we sold Clicks, we sold B3 Group in Brazil (the stock exchange). Those ones were on valuation. There's been a few other trades similar to that, and a few other trades where we can just reduce the overall risk of the portfolio,

which EM doesn't contribute a little bit more to, and keep a similar return profile actually, if we move it to some of the newer ideas in Europe.

- ⌚ 12:14 **Cam Webster** So Clicks and B3 are mostly valuation calls, but on Clicks, which is a really interesting story, how did we actually find that stock? You describe it as a really great business, but how did we find it?
- ⌚ 12:27 **Dave Ragan** The way we found Clicks—it's a little bit unique to the Mawer platform—because we have one investment philosophy and we invest around the world. Our Canadian team were investors in Shoppers Drug Mart, and really highlighted the quality of that business model. (This happens often, where one team will find an interesting business model.) I always say that great businesses transcend borders, so we looked around the world and actually found Clicks because of that.
- ⌚ 12:53 **Cam Webster** Did they tell you specifically, “you have to find drug stores that have pharmacies at the back?”
- ⌚ 12:58 **Dave Ragan** No, they talk about their investments, any new investments. We have a research meeting where, every Wednesday, the whole research team is in the same room talking about companies. And sometimes we do what we call “the three minute drill,” where someone talks, ironically, for about eight minutes on a company.
- ⌚ 13:14 **Cam Webster** [Laughs] It's a good goal, three minutes.
- ⌚ 13:17 **Dave Ragan** Yeah, it's not easy to get a lot of detail in three minutes, but it's the goal. But you get that intro to a different company. I think one of the weeks they talked about Shoppers Drug Mart. And you saw that this is a pretty good business model: you can roll them up, you can consolidate the industry and get a lot of benefits there. So we actually found two—we found Clicks in South Africa, and then we found Tsuruha in Japan—which have similar business models. Clicks has a lot of growth because it's an underdeveloped business in the country. And Tsuruha, even though Japan is incredibly developed, have a lot of consolidation options because it's a very fragmented industry. There are a lot of smaller players that Tsuruha is able to consolidate and get a lot more efficiency out of those sites.

- 14:02 **Cam Webster** So off of one idea in the Canadian market, we got two ideas in the international portfolio. It's interesting. Maybe the dissenting view would be, well, wait a minute: yes, you guys have a process and philosophy, but are you picking specific companies? Or are you just picking business models?
- 14:21 **Dave Ragan** Well, they're very much intertwined. I mean, a company is a business model that incorporates where you apply that business model and the management team doing it. But then, the third piece of your comment is, well, it's got to be a good investment, so it's got to be valuation. But that goes back to our philosophy. Business model is a core part of it: a good business is where you're operating in and who's operating it. And then, finally, don't pay too much. And you've got a good investment.
- 14:46 **Cam Webster** Let's dig in a little bit more in the process. So process encourages focus on inputs. That's what we do—
- 14:53 **Dave Ragan** —We can't control the outcome, necessarily, all the time, but we can control what we put in, yes.
- 14:59 **Cam Webster** Right. So two of the big inputs are adherence to the process and improving the process.
- 15:04 **Dave Ragan** That is actually part of how we bonus our analysts here, and all the research individuals. A third of it is on improving the process, because, like you said, we can't control all the outcomes. It's a very random world, it's a very uncertain world—there's a whole podcast on the different between risk and uncertainty. We really focus on people working hard, following the process, which we think, over the long run, should work; and then of course, improving the process. Because, well, in all honesty, when I started here back in 2004, nobody knew Mawer Investment Management. In Calgary, maybe someone might know you, but most likely no. And then definitely, the rest of Canada, no.
- 15:46 **Dave Ragan** Now, I see our presentations, some of our work, popping up around the internet with other clients and things like that. People are seeing what we're doing, and there's other individuals copying some of the things we're doing. If we stood still, we'd probably lose our ability to create

alpha. So we're always pushing on how we do the process, do it a little bit better. Obviously, the big effort is actually just on applying it, looking at more companies, doing more research, doing more calls with management teams. But we're always trying to make it better and there's a lot of improvements that we've done over the last year. It can be something simple like a framework where you break out a little bit more about how, ideally, one does scuttlebutt. I think there's been a podcast on that already, so I don't really need to go into a lot more detail.

- ⌚ 16:35 **Cam Webster** Wow, you're just a running ad for the podcast, here, Dave. It's awesome! So improvement. Give us an improvement.
- ⌚ 16:44 **Dave Ragan** We now have a DCF model for every stock in the universe. Because, over the last year, we've been trying to create a model that's smart enough to generally create a decent model to get basic evaluation on every single stock in the universe.
- ⌚ 17:01 **Cam Webster** Okay, just pause there and give us a sense of holdings vs. universe. What percentage of universe would be holdings?
- ⌚ 17:08 **Dave Ragan** Well, in the international fund, we have 60 stocks, plus or minus, usually. And then the universe for international (the whole universe including the U.S.) I think, is around 20,000 stocks.
- ⌚ 17:22 **Cam Webster** So you can do DCFs on 20,000 stocks?!
- ⌚ 17:26 **Dave Ragan** We have DCF done on 20,000 stocks, yes. When you get a computer to do it, it's a lot faster. And you know, these tools—they are tools. If we ever buy a stock or invest in it, we do our own DCF because there's a lot of value in going to the numbers, going into the notes. However, when you first come across a stock and it's trading at 20 to 8 times earnings, great quality company, you recognize the business model, it's got a high return on capital, do you work on that? Do you spend a few days or a week of your life working on this stock, or do you pass it off because it's too expensive? Last year or the year before, it'd maybe take you a few hours to make a rough DCF model. Now, there's a very rough one done. And the intention is to make that smarter all the time. That's been a big benefit. We're

always pushing it on building out our inventory; having a bigger list of high-quality companies and making sure that we get a notification when this high-quality company's valuation becomes a bit more reasonable. That has been another push of ours because we do have a lot of work already done on a lot of companies. In the international universe, realistically, probably about 6000 companies that have a sufficient market cap outside of North America. It's still a huge universe. So, this is an area we identified that we had to improve, and we have. And we'll continue to do more.

- 18:46 **Cam Webster** Alright. That's really enlightening, really interesting that we've gone from a few hours of work to maybe minutes in terms of getting it—
- 18:54 **Dave Ragan** —Zero. It's already done.
- 18:55 **Cam Webster** —Like just open the file and it's there?
- 18:58 **Dave Ragan** M42 is kind of our hub as research. It's got all our knowledge on the companies, it's got valuation work, it's got management meetings...it's got everything there, and it's already there. So you open up the company, you see if anybody else has done any work on it, you see what the valuation is currently—so it's done.
- 19:16 **Cam Webster** —So it just pulls it right in?
- 19:17 **Dave Ragan** Yeah.
- 19:18 **Cam Webster** Huh!
- 19:18 **Dave Ragan** If you want to go edit and change some of the assumptions, you can do that. That's just, again, a click of a button. Excel opens, you're done.
- 19:25 **Cam Webster** That gives us really good perspective on the tools you're using to make the process more efficient. But, from a decision-making point of view, maybe give us some context on: why travel? Why do all the travel, if all the tools are at your fingertips now?
- 19:40 **Dave Ragan** There are so many individuals in research now [laughs], that it's really

going where nobody else has gone very recently. There is a lot of travel going on. We've got two analysts in Singapore—one was just in South Korea, another one's going to be in Japan very soon...there are a lot of trips those two are doing to Asia. Individuals in our Calgary office are always on the road as well. There's been a few trips to Asia and lots to Europe. Everybody spends probably one to two weeks, one to two times a year, traveling for these trips. Some do more, some do less. So yeah, you're going everywhere.

**20:19**      **Dave Ragan**      We're not looking at, necessarily, the valuations of this country are suddenly looking attractive—because that doesn't really happen that often. The market's typically more efficient than creating a big opportunity in a specific sector or country. Which, when you ask an investor, “what sectors do you like right now?” (at least for me, it's the question I get all the time), but—

**20:41**      **Cam Webster**      Dave, what sectors do you like right now? [Laughs]

**20:43**      **Dave Ragan**      [Laugh] If the market was that inefficient, this job would be easy, and everybody could make a lot of money, which would actually take away all the alpha. We, I think, create alpha because it's not easy, it's difficult. And it's stock by stock. And it's some little nuance that the market's underappreciating, or the market just makes behavioural issues: “this business is good for now, but I mean, obviously I'm going to get out of the stock before it craters because I'm smarter than everybody else.” And everyone's thinking the same thing!

**21:16**      **Dave Ragan**      So when we do a research trip, the encouragement to all individuals from the team is, “get out there.” Go see a lot of stocks, go talk to the companies. But also go see facilities, go see the plant. That gives you a lot more depth of knowledge of what the business actually is, how it works. And also, you get some confirmations of what management says. Or, you can refute what they say. They say “we care about safety” and you go to a plant and there's some very unsafe practices...you'd have less trust in management. Or, you can see how deep the KPI (the key performance indicators), that management say, “we focus on this”—how deep do they go. Does the plant manager have his own KPIs that he is in control of that

match these ones that were espoused by management? Or does he not? The more you see your companies, the more checks you can have on what was said, and also just the better understanding of the competitive advantages you can get.

- 22:18 **Cam Webster** Awesome, I think we've touched on a bunch of the process, little bit of why we travel, some of the technology tools we're using. You mentioned something called a "three minute drill." A couple of names that I think would be interesting to talk about would be Samsung and something called Assa Abloy. So why don't we do, as best we can, three minute drills on those two companies? Samsung first. Go!
- 22:43 **Dave Ragan** Sure. Samsung Electronics—you have to say electronics because it's part of a big chaebol as they're called (a big operating group in South Korea)—you see them on TVs, you see them on phones. But, really, what this company's core, most attractive asset is, is its semiconductor making. There aren't a lot of companies in the world that can make semiconductors and make the latest and greatest, which all entails making chips that are smaller, and the pathways that the electrons go down are smaller, which makes them a lot more faster and energy efficient. But these are billions of dollars to create and to get it working. And that was the original reason we bought Samsung as well—the memory business is particularly strong with Samsung.
- 23:28 **Dave Ragan** They make the two types of memory: the DRAM, which, when you turn off your computer, the memory's gone; and then the NAND, which would be in your iPhone—it's the hard drive, the solid state. You turn off the power, the memory's still there. These guys are inside pretty much every, or a lot of computers, a lot of phones. And these chips are very difficult to make. So we saw this competitive advantage with Samsung—that they can make these chips, they can progress to the next smaller chip. And it's very costly and very difficult for anybody else to do this. And we made this hypothesis years ago and it seemed to be true.
- 24:05 **Dave Ragan** We actually got some more recent information that, yes, this seems to definitely be the case. Because one of the other entities that was trying to move on to the smaller chips, smaller pathway—they just decided not

to do it because it's too hard, it's too difficult to make it work. To get a good yield of every chip you try and produce.

- 24:24** | **Cam Webster** | So is Samsung's competitive advantage driven by technology in nano? Or why would that other competitor leave? Other than, well, it cost too much. Or is it actual expertise?
- 24:38** | **Dave Ragan** | It's ironic that everybody buys the same equipment from the same company—ASML in Holland. It's more about actually being able to apply the process to really get the yields. You spend millions and millions, or billions of dollars trying to get your factory running where there's hundreds of steps to create one set of chips. It's a big circle piece of silicon that you use lithography light to print the chip. And to do this successfully, to make it so all these chips work on one of these silicon wafers—is very difficult.
- 25:18** | **Dave Ragan** | And as you get to the smaller wavelengths, or smaller pathways, regular light doesn't work anymore. You have to use UV light because the wavelength was too big on regular light. So now you're working with more and more tighter wavelength lights. It's just adding more and more complexity, it's making it more difficult. And then you have a big wafer and you have a lot of chips that don't work, the economics don't work.
- 25:41** | **Dave Ragan** | So all this process excellence in making these work, and the track record and the knowledge you gain over the years—that is a big advantage of something like a Samsung or a TSMC (Taiwan Semiconductor), another one in our portfolio.  
And that seems to be leading down the pathway where, the smaller and smaller we go, the less and less players can do it.
- 26:02** | **Dave Ragan** | It's a solid competitive position, I would say. The valuation is pretty attractive; it's a very volatile business. But I think it's probably less volatile than it was historically because you've had more consolidation, you have less, I would say, volatility in new supply coming on, and new supply building memory coming on. So it's probably going to be a little bit less volatile than

it was in the past and that's potentially underappreciated by the market.

- ⌚ 26:26 **Cam Webster** And what's the major risk for Samsung? Where could you be wrong?
- ⌚ 26:30 **Dave Ragan** Well, technology risk is always something that gives you a little bit of heartburn. You can't know. Semiconductors right now are made of silicon, they're a certain process. Who's to say that it's always going to be the same way? And quantum computing—it's out there, people are talking about it. Maybe it happens, maybe that's the way everybody goes and this new chip opens up and this process opens up this industry for somebody else.
- ⌚ 26:55 **Dave Ragan** There's 3D memory coming out and the existing players are doing this. But again, technology is always a big question mark. The capital allocation of the company—they have a lot of cash sitting on the balance sheet—it's not necessarily a risk that it's there. They could waste it and there have been other companies that have had a bunch of cash sitting there and they waste it. Most likely they won't, but we would like to see a better track record of capital allocations. So we'd highlight that as another risk that we have in the portfolio, a risk that we have in holding, and something we watch. If they get better, shares should do extremely well—they should really re-rate. But if they don't, then there's a huge cashflow that's just sitting there as a drag.
- ⌚ 27:42 **Dave Ragan** And then, obviously, the end markets are volatile. It's computers, it's phones, it's discretionary spending. There's obviously some structural themes behind it, but it's cyclical. And it's all fixed costs, it's not really variable costs. So you cut down your demand a little bit? Prices of memory just crater.
- ⌚ 28:05 **Cam Webster** Okay, you've given us a really good balanced view of, here's the bullish case, here's the risk we worry about. Those risks, I imagine, you talk to management about regularly, so you're always getting an update and making a judgment there.  
Let's shift gears a little bit. I don't know how long that was but it was more than three minutes.

- ⌚ 28:22 **Dave Ragan** I was interrupted though.
- ⌚ 28:24 **Cam Webster** Ah, good point! Touché. [Laughter] All right, Assa Abloy: where the heck is this company from, why is it named that way? What does it do?
- ⌚ 28:34 **Dave Ragan** Assa Abloy is one of the world's largest lock, or they call it "access controls systems." But you're probably most—
- ⌚ 28:44 **Cam Webster** Like door locks?
- ⌚ 28:44 **Dave Ragan** Yep.
- ⌚ 28:45 **Cam Webster** Oh, as simple as door locks?
- ⌚ 28:46 **Dave Ragan** It can be door locks, it can be those magnets that hold the doors shut and the scanners that allow people in and out of buildings...that's them! Pretty boring business. In a hotel, obviously there's hundreds of locks and they're one of the major makers of that. It's not a very complex business. It's still actually reasonably fragmented in lot of markets around the world because you have some local lock maker and—
- ⌚ 29:12 **Cam Webster** Is that right? Fragmented in locks...I wouldn't have guessed that. Sledge: it's the only name I know. But not Assa Abloy.
- ⌚ 29:20 **Dave Ragan** Yeah, those brands are all owned by some other major one. And it's more concentrated in certain areas—definitely in the developed markets much more so. But you can still buy a lot of local brands, get rid of the local production that's inefficient, and move it to the Assa Abloy platform.
- ⌚ 29:35 **Dave Ragan** Some of the things that are attractive about this is, there is a good portion of the business that is new builds. You build a building, you have to put on locks. That's obviously very cyclical. Not a lot of buildings get built in a crisis. But if you have an office building in the middle of the most terrible crisis ever, and your front door lock stops working, are you going to defer buying a new lock then? Or are you going to buy it right away? And you're going to buy the exact same kind that you had in the rest of the building,

because it's all connected. It's one key that's used in all of these areas. It's one card that's used in all these areas. It's one software system that's used.

30:16 **Dave Ragan** That's a very stable business. And again, distributors sell these to the locksmiths who just pass the price on to their own customers. They don't care as much about the actual price; there's not a lot of negotiations there. And then the end cost to the consumer—it's probably more labour than it is actual end cost of the product.

30:37 **Cam Webster** What's the growth path for them?

30:39 **Dave Ragan** How many years has it been since you had a physical key to get into a hotel room? And the cards are getting a bit easier and easier. This is also moving to households where you may have a smart door, a smart lock, and maybe even tied to your smart home in general—when someone's there, you can unlock the door for them. Amazon package comes by? You can actually open it up for Amazon.

31:04 **Dave Ragan** There's a lot of talk of this in the future and maybe it happens, maybe it doesn't. But one of the core questions that people don't seem to talk as much about—especially if you go to Europe—is, walk around the residential areas and look at the locks. These locks are 50+ years old sometimes. With the hotels example, we've gone from sliding the card to touching the card in a relatively short period. So they've replaced those locks pretty quickly.

31:36 **Dave Ragan** With radio signals like Wi-Fi connection, you can't really have a device that's 15 years old because it won't connect anymore, it won't work. So the replacement cycle potentially does increase materially from: we buy it once and then it's there for pretty much forever until it breaks to—we got to replace them every five to 15 years.

31:58 **Cam Webster** That gives us a good picture on what Assa Abloy does. Risks there?

32:05 **Dave Ragan** The risks would be, there is a portion of the revenues are cyclical. The company has faced intense competition in China and they've had to

adjust down some of their growth and profits in the short-term. Longer-term it probably plays out like most of the markets, but there's some short-term pressure there.

**32:25**     **Dave Ragan**     The smart homes, and the Googles of the world—Apple—everyone wants to have their own smart locks. But right now it's really Assa Abloy or one of the other majors making those locks. There's just a piece of software attached to it. It's pretty unlikely that Amazon and Google and Apple want to deteriorate their business models by making locks. They have better business models, they have higher returns on capital. They don't really want to get into this business. They potentially could try to—which would be a little bit disruptive, but I think that's a lower probability risk.

**33:00**     **Cam Webster**     Thank you for painting those two pictures: Samsung, Assa Abloy. I think we're ready for “One Mawer Thought.” If you look through the portfolio, international equity has a pretty large weight in the small country in Sweden. Please explain that Dave.

**33:15**     **Dave Ragan**     Relative to the index we do have a much higher weight in Sweden. And what we found is that there are certain countries around the world that the management teams are consistently better. I'll often say, “I think here's something in the water in Sweden that just makes a better manager.” The average Swedish manager is quite good. They allocate capital well. It's small country, so they quickly realize that they're going to go international. And you find a lot of great companies that are based in Sweden operating around the world; good capital allocation. And again, the index doesn't care about that in weighing its stocks in its countries. So that's one of the reasons why they probably find us in Swedish stocks a lot more than elsewhere.

**33:58**     **Cam Webster**     Okay. I don't know how to say thank you in Swedish, but “thank you” in Swedish, Dave! Thanks for joining us, thanks for giving us an overview of the international equity portfolio and we will have you on again sometime soon.

**34:10**     **Dave Ragan**     Thank you and you're welcome.

