Rodrigo:	**00:00.36**	Phew!
Rafael:	**00:00.77**	Ha, ha, ha. There he is!
Rodrigo:	**00:01.940**	Perfect.
Rafael:	**00:06.69**	Can you confirm, Ignacio? We couldn't hear the last thing you said.
Ignacio:	**00:09.57**	About the light in the micro, in my case, in my micro it doesn't only have a black spot.
Rafael:	**00:13.59**	Okay, okay. Well, then nothing. It's just that mine. Well, it's
Rodrigo:	**00:16.83**	Mine, well-- We're live people.
Ignacio:	**00:19.52**	Well, sorry.

Backgrounder

Ignacio:	**00:22.20**	Good afternoon everyone, how are you? Thank you very much for connecting, for being here with us and sharing a little bit about investing. We have Rodrigo Gordillo from ReSolve Asset Management. Rodrigo, would you mind introducing yourself, so that the people who don't know you learn a little bit about who you are and where you come from?
Rodrigo:	**00:39.48**	Yes, yes, I am president of ReSolve Asset Management SEZC (Cayman). I just transferred my license to the Cayman Islands, which is where I am now. My team has been running quantitative strategies based on global diversification and everything that's more passive and the theory "If you don't know how to predict the future, how do you create a 100 year portfolio?". Create tactical strategies around long-only and ultimately create alpha using long-short in all the world markets in which you can get into, the futures market, and besides what we invest for other investors, we are also writing a lot of white papers, reports, podcasts, etc, to try to educate the world on the quantitative subject.
Ignacio:	**01:48.11**	Great. Thank you. Rafael Ortega is also here with us. Rafa, you're better known in the Spanish-speaking world, or at least in Spain, but still introduce yourself so people can learn a little bit about your background.
Rafael:	**02:03.94**	Well, thank you very much for the invitation. I am Rafa Ortega, I manage two Spanish mutual funds which are Cronos or also known as River Cartera Permanente and River Patrimonio. I also agree a little with Rodrigo's philosophy. I believe that the economic cycle is inevitable, but unpredictable and from there, I have built the strategies that I proposed. I started with River Patrimonio, which is an investment fund that combines different types of assets, a combination of strategies, time diversification, and it moves away a little bit from the typical portfolio of yield and fixed income, which is a bit like current meta. Then I also proposed to bring to the market Harry Browne's *permanent portfolio*, which we could say it's almost the philosophical basis of all this and all the

strategies that I have designed are long-only and they are adapted to the European market and to the UCITS regulation, because the truth is that doing anything else here right now is a bit complicated to do or market.

Ignacio: **03:16.97** Great. We will also talk about the differences between UCITS and non-UCITS throughout this talk, how a European investor can transfer a little bit to the investment philosophy that Rodrigo is proposing to us and how can you do this as well, a little bit more retail level.

Ignacio: **03:32.61** The objective of this talk, unlike the last time we were here, Rodrigo, is to make this a little more accessible and a little less technical for the retail investors, so that they can understand the concepts from an operational point of view, get to their broker and be able to replicate certain concepts.

Asset Allocation vs Asset Selection

Ignacio: **03:49.20** Well, let's start with a very simple dynamic or a very simple question, and that is, why is asset allocation more important than asset selection within that group? Or why would it be more important to choose the weights between equities and bonds than to make the effort to say which specific stocks to buy?

Ignacio: **04:05.47** In this case, Rafa wanted to bring us a quote from Paul Samuelson who said that “markets are micro efficient, but macro inefficient”. What did you want to tell us with this phrase, Rafa? What was the idea behind it?

Rafael: **04:19.53** Well, at the level of, for example, a company that you already have listed on the stock market, the market is able to keep prices approximately in balance with the perceived value. Also, I would say that most of the thinking heads, most of the industry, is focused precisely on that, on trying to find the value or trying to value those assets. However, at a broader level, at a macroeconomic level, there are a series of barriers, which are very well explained in some of Rodrigo's papers, that prevent efficiency at the level of asset allocation. So, I believe that the risk/return or the opportunity to generate something positive for the investor is more in the asset selection-- I'm sorry, in the asset allocation, than in the asset selection. There are different types of barriers, there are physical barriers, behavioral barriers. Perhaps Rodrigo can develop a little more there.

Rodrigo: **05:28.83** Yes, basically what we always say is that 99.999% of the brainpower in the investment world is trying to pick the best stock, the most suitable asset, especially in S&P 500. You take it out by choosing between Apple, Tesla, Microsoft, Amazon, etc. Unfortunately, not much time is spent trying to see which global stocks we should be investing in or which global indices we should be investing in. And it's because there are certain-- number 1, the individual stock stories are more fun. It's much more fun to talk about Tesla than talking about the differences between fixed income and stocks. And the other side is that--and that's why, because it's not sexy, and it looks relatively simple. Very few people talk about it, so there's more opportunity to be able to create some kind of value. Following on that theme, when you talk about how many people are trying to do something active in the world, to do education. All the pensions in the world have what we call structural arbitrage barriers. That means that when one enters a pension they already have the mandate.

Rafael: **07:04.13** The mandate, no? You can't change it.

Rodrigo: **07:05.63** You can change it to 5% or if you want to change it for more than 5%, you have to go to the directors, ask permission, you have to go to the actuaries. The actuaries will say "Look, you told me you're going to do this fixed income percentage"…

Rafael: **07:18.69** You can't change it.

Rodrigo: **07:20.33** You can't change it because we have to change all our expectations of future returns". So they don't have the flexibility of mandate or the agility to be able to move from one to the other. They don't have the agility to be able to move between one and the other. When you have that structural barrier, there are opportunities for those who can move to get a little bit more return out of it.

Rafael: **07:47.09** I think that is one of the reasons, and it's also because-- the other day I was reading, I have it here, "The Lords of Finance", or books from the end of the last century, then books from the 40's, 50's, investment books from the 70's. And what you see is that at each moment in time, the mantra about what was the right way to invest, what everybody knew was different. So, in those changes, turns out that now it actually has, for example, after the 70's or at some points in time, at the turn of the century, everybody knew that to make money you had to be a trader. I mean, they would have laughed at you. When those things change, all these institutions that handle millions and millions are adapting, but it takes them a long time to change their philosophy. And then there, in those setbacks, I think there is an opportunity.

Rafael: **08:45.14** And I also think that everybody finds it very comfortable to do what everybody else does, which is one of the reasons why if you go to your private banker, he will recommend a more or less diversified portfolio of equities and fixed income, a trademark that I always say that almost everybody does the same, because when they win we have won and when the market loses, as everybody does the same, the market has not done well, then of course, more or less--

Rodrigo: **09:10.46** We are all on the same boat.

Rafael: **09:12.47** We are all on the same boat, so I think that from the institutional world there are also few incentives to do something different from what most people are doing and you have it quite clear, for example, in the Robo Advisors. In the end, there are now Robo Advisors in the United States that allow you to take a mandate from another institution or that allow you to do something. There's been some doing risk ? We will talk about it later. They don't do it very well but they do something. Most of them offer you a very similar thing and the first point has been to compete in price, but what they offer you is always the same strategy. So I think that's another reason, which is that it is a behavioral thing, it's difficult.

Rodrigo: **09:57.44**

All the Robo Advisors that I've seen in each country, offer you the same strategy with the same overweight to your national market. That is interesting. When the Robo Advisors came out in the United States, I had 60% in American stocks crossed. If you were in Detroit, north of the United States, they would tell you that the optimal portfolio was 60-65% American stocks. You cross the bridge to Canada and Canada's Robo would say that the optimal portfolio was 60-65% Canadian stocks. I mean, what's the method? The method is that there's a bias, or a preference to have it local. Same thing in Peru. So that's another structural barrier where you could take advantage.

Rafael: **10:51.89**

It's curious because here in Spain I have the feeling that a portfolio should, or at least in the institutional world, the portfolio should be globally diversified. It is observed more, but the reality is that, I have also worked in asset management and the majority of clients came with inherited portfolios of Ibex 35 stocks and a disproportionate weight. And also, to make them understand, to make people change their minds on how that was much riskier than it seemed, and that all the problems that I believe the people who are probably seeing this today with us or who may come to see this, have internalized, but that's not the majority. A lot of times when we talk on Twitter with people who are interested in the same thing, we're not aware of the micro bubble that we're in. Most people, if you ask anybody on the streets-- Well, first they would have to invest and for those who invest, we would have to see how they invest.

Ignacio: **11:52.59**

Take out a survey and see how many people have an investment account with a broker that's not legitimate? Hardly anyone knows how to start investing. Tomorrow they might say "There's an opportunity with Santander Bank" but they don't know where to go to buy Santander Bank shares. It's mind blowing, but it keeps happening.

The Retail Investor’s Dilemma

Ignacio: **12:13.25**

Before you guys continue, I wanted to ask you a slightly awkward question because you talked about the barriers that exist to take advantage, you know, those barriers that prevent certain funds from not being able to invest in one way or another, create inefficiencies. But to a retail investor, why is it more interesting for them to invest or do asset allocation when there's actually more volatility and more return potential in the stock selection within their assets. That is to say, it is more likely that one will get a higher alpha investing in a specific S&P 500 stock. Investing in S&P 500 is more likely that instead of buying European fixed income, one will invest in fixed income of a single country and do better.

Ignacio: **12:55.33**

So, what would you say to a person who is this focused 99.9999% of their time on this type of selection? Why is it worth it or why is it not?

Rodrigo: **13:04.83**

Look, the main issue is because people only see one side of the coin, they see returns, they want to make money and the volatility or the risk that one is going to take when you are trying to choose a particular stock in the Spanish stock market is rarely talked about. I mean, for every level of volatility there is a level of return, an expectation of return. And unfortunately, when you are talking about the lack of diversification of having one, two or three stocks in your portfolio, it's going to create a level of volatility that unfortunately gives you the same chance of being lucky as not being lucky, and the only thing you have to do to have more return per volatility level is to diversify, and you start diversifying through the local portfolio and from there you can diversify with the international portfolio. And unfortunately, everything that is equity, the stocks of Spain, Peru, United States, Canada, are well correlated because they all depend on the world growing. Even when you have that global diversification, you are going to have more risk than needed. That's called paying for risk that's not paying you back. It's not necessary. The goal should be, what should I do to have maximum diversification in which for each unit of risk I have more return and from there decide with leverage, or if you don't have to use leverage, making it useful, how to increase that return in the future. But I mean what it is is, this is playing the game or in those stocks and in one of the papers that we have written we talk about you can have a lot of local people at the rate of locally, because they feel that they know more than the rest. I, who know Santander Bank better than the Merrill Lynch Bank.

Rodrigo: **15:17.68** Okay, let's imagine that you can know exactly which equity manager in Margin Markets had the best return. In the last 20 years-- no, in the last 15 years, the investor or the mutual fund of the Margin Markets, the best investor that chose the best stocks, that has made the best results, could not beat the worst American stock mutual fund stock.

Rafael: **15:53.61** And we are talking about stock pickers, not about exposure to emerging markets, but how the best emerging stock picker did not beat the worst American stock picker.

Rodrigo: **16:06.18** So, what does that have to do with this? That has to do with what you asked me, if this is an opportunity for profit, the volatility that it gives us to win... well, even if you chose the best stocks, you still haven't thought about which group of global stocks are going to do better, and which are going to do worse. The truth is that 95% of the battle is to choose well. What asset class do you want? What stock in the world do you want to invest in? Gold? Not only world stocks, but also other things like fixed income, etc.

Rafael: **16:48.77** I would also add that there's another question you have to ask yourself first, and that is, what is your purpose regarding the financial markets? Are you looking to make loads of money in the financial markets? If so, then the way to make loads of money is with concentrated bets. So, if you do well, concentrated bets are the best way to get rich now. Now, the concentrated bets that go wrong for you fizzle out. So, what is your purpose regarding the financial markets? If you go to the financial markets to participate in the economic growth and at the same time try to protect your wealth, which is what you are going to do, participate and protect, and if you're a balanced and even defensive investor, then you have to move towards something else. So there's a question you have to ask yourself first and I think that question is, what is your objective? How do you think the financial markets are? First, if you think they're unpredictable, then it'll hardly makes any sense on a philosophical level for you to do stock picking, and after that you have to see what your target. Then that will mark where you are approaching in some phases.

Rodrigo: **17:53.44** If you are going to choose, if you are going to be one of those who wants to concentrate, you have to ask yourself, what is your advantage? What is your advantage?

Rafael: **18:01.96** Why are you going to get it?

Rodrigo:	**18:03.25**	I've been doing this for 15 years. I have a quantitative team that's dedicated to-- 24 hours a day, because they're all over the world trying to find a better way to get an advantage on every location, asset classes, etc. And the rest of the world that do that for a living, I mean, this is what they do every day. An individual who logs into their account once a week to see what's going on with GameStop, that for those who don't know, it's one of those stocks that went crazy recently. What's your advantage? Because if you don't have an advantage, then you'll eventually lose and you'll be giving away money to people like me. So if you get to the point where you can't predict, the question is, what's the next step?
Ignacio:	**18:49.55**	The question is that, I was just asked this question a week ago by a friend of mine who had listened to the previous one and he said I am a little bit confused by the idea that you have to diversify, first because we don't really know which types of assets are going to be the best. And you have to look, because you don't know what kind of what day of the week trades best, or what kind of averages work best. But at the same time you are telling me to do factor investing and to select stocks by characteristics. On the one hand diversifying and on the other hand diversifying between things that no longer diversify because they are only selecting. So what you have said is clear. Excuse me Rafa, is that it is to create an advantage when you do not know, you have to diversify. When you already have an advantage is when you can start not diversifying or discriminating, let's say, Rafa, sorry.
Rafael:	**19:40.08**	Don't worry, in the end the next step is, as Rodrigo was saying, what's your source of advantage? What we are saying here is that a potential source of advantage may be precisely that people don't have a good asset allocation because they don't think about it. So a potential source of advantage is to have a structurally diversified portfolio. And the other thing is, why do you have that advantage? Because you understand that the source or what explains most of the returns of the different asset classes, is the combination between inflation and growth, and that explains what we call "structural diversification", which explains why there are assets that become favored and why some sub-assets or some investment styles within an asset, behave in a way that is structurally referenced to each of the economic scenarios. That's the whole explanation. So, yes, you have to be exposed to each economic scenario and then within the assets that you choose, those assets will also be different ways of exposing yourself more or less, and then there are levels, it's not the same.
Rafael:	**20:52.66**	A super deep recession is not the same as a slightly recessionary period, or a super recession. Either you've got something going short or you've got some volatility or you've got some of-- well, I think we're getting a little bit technical again. or you have some defensive equity exposure or you have a trend strategy. I mean, there are levels that go to an extreme extent, so you also have to take that into account.
Rodrigo:	**21:22.30**	Yeah, of course. We've talked and written about this spectrum. We gotta get comfortable with being uncomfortable, and the first the issue of it is, we have to be … to make uncomfortable. Well, the first thing is that a lot of people are comfortable, as we talked earlier, in their own country, but we know that there're risks in doing that. In Canada, United States which are where my largest number of clients are located, in terms of the

evaluation, they are the most expensive countries in the world. So you either accept a lower return, with more volatility, or start diversifying globally. And that's difficult because you're saying you've already got the rest of the world. I'm investing in stocks I don't know, in countries I don't know. I'm investing in gold and other commodities.

Rodrigo: **22:19.680** I'm investing in German funds, UK gilts, I mean, in international fixed income, but it gives you a better chance of surviving any kind of economic factor, whether it's growth or inflation. So, from there you have to say Ok, now I'm global. I've got everything with these exchange traded funds that are basically indexes. Now, what can I do to be a little bit more uncomfortable? Well, once you are comfortable with that diversification, then you can say well, I want to do Market Cap. Market Cap being the S&P 500, that the companies with more weight in the index have more-- I mean, what has more interest, has more weight in the index, or I'll go find something that has already been written. The work has been done for you, to try to understand what is momentum, to try to understand what is value, to try to understand what is low volatility and try to educate yourself a little bit more, so all of a sudden a portion of my exposure in the American market is going to be with these TIPS and I don't have to start from scratch. Somebody else already did it. Before it was alpha, now it's beta. You know, alpha used to be active. Now it's more or less beta. And it gives me diversification beyond what I can do with Market Cap.

Rodrigo: **23:36.36** And from there you can go talk about term protection, long-short and all that stuff, but he starts by saying "Is it smart to put all my money into the Spanish market?".

Rafael: **23:48.39** To close this topic, I wanted to share something. How do I do screen sharing? I have it here. Are you seeing it?

Ignacio: **24:02.71** No.

Ignacio: **24:03.81** …

Rafael: **24:08.53** Well, I don't know how well this looks, I'm going to expand this a little. This is kind of like the visualization what we were talking about. This is the famous Diagram of Structural Diversification of the … based management that I translated into Spanish. But recently, as a joke, I removed all the top part, so now you see how we have growth on the right, recession on the left, deflation at the bottom, and that gives us two economic scenarios: deflationary growth and inflationary recession. And then we see how there are different types of assets and how they behave on each of the economic scenarios. One thing that we haven't discussed, but that I think is the key, and that I have talked about many times today with an investor, who was asking me a little bit worried about these last few months and the behavior of different assets, is that these relationships are not immediate. This is not automatic. If you look at seconds, minutes, days, months, you're not going to see it. But if you look at semesters, years and you go a little bit longer, it starts to become a little bit more evident. We also understand why it happens in the theory, then we observe it in the practice. That's why we were confident that it would happen. But this is the world, according to most investors right now, and this is the diversification that they have, they don't have anything other than stocks or bonds. I put real estate and it seems like stretching it, but we're talking about this, which includes inflationary scenarios that haven't happened since the 70's, so people have forgotten. But these are things that could happen, different assets that could be favored in each scenario. This is a slightly more complete version, if somebody wants to take a screenshot, you'll be able to look at it after.

Ignacio: **25:44.78** Why don't you upload it later on Twitter?

Rafael: **25:45.64** Oh, okay. I'll share it later. I recently put on a table of contents and it's about what big themes are favored and what kind of sectors within equities, I mean, what types of equity investment styles, what types of fixed income, what types of alternative or commodity investments are more or less favored in each of the scenarios.

Structural Diversification

Rafael: **26:05.48** So, in the end, I think my idea is that if you don't know what's going to happen in the future-- I stopped sharing-- if we don't know what's going to happen in the future of the financial markets, if we have no way of knowing how it is going to happen, or what will happen, or when something is going to happen. What makes sense is that you're exposed to all possible scenarios and the way is to have a combination of these assets. There is no other way. The other question is, how do we manage that portfolio or what weights do we give it? How do we do that management? Is that another problem.

Rodrigo: **26:38.31** Yes, yes.

Ignacio: **26:39.55** We have completely moved on to the topic of structural diversification. Perfect. Good introduction. Speaking a little bit about what we were saying before, about comfort and discomfort. There is one thing that you have to see, because it is the day by day of the world, people having portfolios of 60-40 or fixed income of equities in proportions of 100% minus your age, you have seen it hundreds of times.

Ignacio: **27:04.42** Okay, but that's not enough, it doesn't cover all scenarios, so you also have to include other types of assets that we have talked about, like cash, for example, gold. Could you tell us a little bit about what these two assets or another type of the network that I have discussed can bring to a portfolio in other periods that people have not known for decades.

Rodrigo: **27:24.31** Look, I have here a presentation I did a couple of years ago, to show what the problem is with the 60-40 portfolio. Number one, the biggest problem is that it is dominated by equities. What was needed in order to do well in that era, is a world in which there's abundant liquidity, constant shocks of growth, of growth surprises, and that you don't have any deflationary problems during that time, that is, low inflation. Unfortunately, in the last 30 years we have seen a drop in inflation. Very few people in the investment world have experienced what inflation is. So you have to go a little bit further. The only thing we've seen is, especially the last ten years, a steady growth and we have seen an abundance of liquidity. But we don't need to live it to do, to study the past a bit and understand that there are certain decades in which there was not enough liquidity, enough inflation and consequences to the traditional portfolio. I'm going to share with you right now what happened in the 70's to equities and fixed income.

Rafael: **28:54.80** In the end that portfolio is an implicit bet because the future is going to be growth and moderate inflation to eternity, and that's it, that's what's going to happen, because it is the scenario, the economic climate that favors this portfolio in a very clear way.

Rodrigo: **29:09.45** Yes. Are you looking at my screen?

Ignacio: **29:13.20** I'm not.

Rodrigo: **29:14.912** Oh, I'm not sharing the screen.

Rodrigo: **29:15.48** What we see here are two interesting things. In the 70's there was a series of inflationary shocks. One of the components of which the 60/40 portfolio has also worked is because we have been in a time of deflation and where the correlation between fixed income and equities has been generally negative or at least not very correlated. When we enter a world of inflation, what we see here is that fixed income and equities, not only did not make money for a decade, but the correlation was very high. So what we are depending on a 60/40 right now is that when equities fall, bonds go up, when bonds go up, equities fall. It's creating a calmer portfolio. Unfortunately, when inflation comes in, bonds and equities go down at the same time. I mean, they obviously have different volatility, but the path they're taking is basically the same and you don't make any money. So how do you diversify your portfolio? How do you create something in your life, so that if something like inflation happens, you can survive and do well.

Rodrigo: **30:39.93** Fortunately it's relatively simple. Now, whether you want to own gold or commodities in that same decade, gold made 800% return and approximately 400% in commodities, in real terms. So one of the things we have to contemplate is, what is the ability to be able to predict whether or not there is going to be inflation. And if you don't know if you don't have a way of knowing, or you don't have a way of knowing, you can't predict very much. I don't think many people can do it. So the first step is to add these kinds of commodities, and gold, is the permanent portfolio. I think Rafa can talk a little bit more about the first step in the permanent portfolio, to be able to introduce people to what is done in structures.

Rafael: **31:35.56** Yes, in fact, the idea of the permanent portfolio, which I don't think anyone here doesn't know. But the idea of the permanent portfolio is that, if we've seen all the combinations of inflation and growth and we've seen that there are different assets that perform better and worse in each of the economic scenarios, Harry Browne In the late 70's, what he proposes is a very simple way of dealing with this problem, which is to say, let's forget about combinations, let's not go to extremes. When there's economic growth, what works? Equities. The stocks work when there's economic growth. Do we know why? Yes. Do we understand it? Yes, it's clear. When there's deflation, when deflation is already automatic, the bonds. When there's deflation, they're automatically worth more. So that asset, especially if you go to the long term ones and you go to the top credit quality ones to be very safe. Those are the bonds that are going to perform better when there is rising inflation. But we're not talking about a moderate inflation here, we're talking about inflation when it shoots up. Historically what has worked best is gold, whose main trailer is real interest rate expectations. And when there was a recession, Browne understood it as a lack of liquidity. So the only thing that works in that scenario is to hold cash. Obviously when you have a lot of cash, or a significant amount of cash, what you're doing is, let's say absorbing volatility from the other assets and lowering your risk exposure is a conservative way of making this play. And what Browne does is say, "Well, since I don't know what's going to happen, I don't know these combinations or what's going to happen, I'll assign each one an equal probability and an equal amount of capital" because there's another way to do this, which is to allocate a capital in a way that's equal risk to that. Rodrigo will explain it better. But that's kind of the idea. In fact the permanent portfolio has had it since it was raised, but I have done simulations of 1900, and you have to take it easy, because that data is not that reliable, but you can simulate and see how in virtually any scenario, the portfolio would have performed well or reasonably well. It would have performed much better than other options that would have only bet on a part. There's another interesting topic of the last 40 years, which sometimes people ask me about "But that means you're forced to be conservative. There are no ways to take that into account and want to take some more risk". There are ways and we will discuss some of them now. But notice that a very naïve way of doing this is what I have called … Browne portfolio, which is 50% permanent portfolio, 50% equities, which is actually a modified 60/40. It's a 60/40 where the 40% you have, diversified, you're diversified. You are simply, instead of just having bonds, you have cash, gold and long term bonds. Well over the last 40 years that portfolio has done better than the normal 60/40. Why does it do slightly better than 60/40? Because at the only time in the last 40 years when there have been problems, which was the 2000s, you had more and more tools that protected you in that scenario. This is a very, very simple way to do it. It's better not to get too complicated. But I think it's a first step. I mean, you can take this into account. You may want to take more risk. The next step is how do we manage these portfolios to take those risks in a truly balanced way, and there's another combination of strategies, and from my view, you necessarily have to go to something dynamic.

Ignacio: **35:21.56** Here, if I may, I would like to add two questions from the audience that they've sent us, which are related to what both of you just talked about. In fact, the first question would be from Andres. You just posted an image, Rodrigo, that related gold and commodities, which they had evolved by 2% and I don't remember the other digits, but it was shown. So, what Andres was asking was, why include TIPS and commodities in a portfolio with structural diversification when they overlap with gold in times of inflation is possible? And the other question is for you, Rafa, are stocks worth it or not for protecting in an inflationary period, since in the end by buying production, you should be buying inflation, in other words, it should be linked.

Rodrigo: **36:11.88** Can you repeat the question again? The question is, why include TIPS if you already have gold?

Ignacio: **36:19.26** That's right, why include TIPS or other commodities when you already have gold, if it has a high correlation in times of inflation?

Rodrigo: **36:26.07**

Because we are now reaching other levels. Inflation is not just a thing, it comes from demand or can be from lack of supply. So, depending on what's happening, is going to affect different … sectors. For example, it is aligned with CPI, the Commodity Price Index. That basket affects certain commodities, certain expenses, that are quite heavy on energy, for example. It doesn't have to be energy inflation. And a lot of times you also have to take into consideration that the government has controls on that basket and can, and has changed it in the past. So it's a good way to have a … against inflation of that basket. But what if inflation comes in different things? Gold is not there in that basket. What if it's a demonization of your currency or of the U.S. reserve currency? In that case, gold is going to react better than TIPS because they are in the local currency. What happens if there are certain inflations within the commodity complex? You can find nine different groups of sectors that are affected in different ways, with different inflations. So unfortunately we are talking about inflation to try to introduce to the world that that is something we have to be aware of. But within inflation there are different types, and you have to diversify your diversifiers.

Rodrigo: **38:12.17**

Another thing they are saying here is, if we believe there's inflation and what percentage should we increase? I think at this point we are talking about not trying to predict too much, we have to take into consideration that right now, you think there is going to be inflation and I understand the argument, but the point of this portfolio is that we don't know. We don't know if there's going to be more deflation. In fact, we are continuing to see deflation in the market and this may happen for many more years than we expect. I mean, for example, German bonds-- I'm going to share my screen-- a lot of advisors are saying that there's no advantage in buying a portfolio. Are you talking about the permanent portfolio? Are you talking about...? Why would I have one, a fixed income that is paying me 0.5 or 0.75, if the only thing I have left to try to grow my portfolio is to put it in global stocks that are riskier?

Rodrigo: **39:22.23**

This conversation was pretty tough around March. This topic is a bit old now. We were getting this from United States 10 year treasury, .72%. At that time, you were having that conversation and saying "I'm going to take it out of a portfolio completely". I did a parallel. In Germany in 2015, the portfolio of the ten-year German fixed income portfolio was paying about 0.79. And at that time you can imagine that German advisors were telling clients it's not worth holding German bonds because it not giving us anything. It is obviously going to go up. We have no choice. However, as you see here it went from 0.79 to -0,75 in minutes, and during that stage the value of your German bond portfolio had an annualized return of 4.65%. So, what ends up happening? The Germans would've had the option to only invest in the black line, which is German stocks, or to invest in the yellow line, which is German bonds.

Rodrigo: **40:40.29**

German bonds did better than stocks and the combination was better than both. So the point of the permanent portfolio, the point of breathing is that we know nothing. And even if we have all the evidence that obviously it's going to be inflationary, the amount of money that the government is printing and there's nothing left but inflation, we should put more gold. I'm telling you, you have to be pretty sure of that to get out of your portfolio and, because more often than not, it's a coin toss, 50/50. I'd rather have the balance.

Rafael:	**41:20.18**	There's one thing that's really fun for me that I've been doing lately, and that's going on YouTube or Twitter and looking for macro advisers. And then I look for both extremes, and then there's a guy, for example, who's called Tavi Costa, maybe some investors know him. He has a vision about us going to an uncontrolled inflation scenario. He invests in gold, precious metals, etc. And then there's another guy who's called Brent Johnson, who's American, who has a view that first there's going to be deflation and then another story will happen. So both of them are brilliant and incredibly educated, very eloquent in explaining their point of view, and you listen to each of them and you end up believing it. I mean, I listen to him and I think that everything that man is saying makes sense, but then I listen to the other one and I also think "Wow, maybe this could also happen". They're both saying the opposite.
Rafael:	**42:17.81**	And then, what I like to do is to look at my portfolio and say, "Let's see what would happen if I had a super inflationary scenario". I have plenty of things, I have TIPS, I have gold, etc, so i'm going to pull this, obviously this other part would suffer, but at least I'll survive. Then I go to the other scenario, what happens if this doesn't happen and continues? Or if there is a double bubble? I ask myself what would happen with each of the possibilities and if what you end up seeing in your portfolio is that you always have a part that is going to be able to pick up that possible scenario, then you'll survive. And in the end, it's better to be reasonably better than specifically bad. And that's at the asset level. Then we can use that for any other part of portfolio design. There was another question, but I already forgot it.
Rodrigo:	**43:06.149**	Well, that's the thing with trying to predict. It's very difficult. And the narrative is the most important thing. People love to have a reason why they have a certain thing in their portfolio and unfortunately, diversification doesn't give you an interesting narrative. You don't have anything to talk about with your friends. What are you doing? A little bit of gold, a little bit of stocks, a little bit of bonds. But why? Because it's reasonable. How boring, i'm leaving. I'm going to talk to the other guy who's talking about Bitcoin. Narratives are strong and if you can sit at the party with your friends and tell that narrative of the macro dialogue that's saying everything's going to fall apart and there will be deflation before inflation is more interesting than what we're talking about, unfortunately.
Rafael:	**44:01.63**	What was the other question? Thank you. I forgot that there were two parts.
Ignacio:	**44:05.50**	The question was if equities were worth it as a hedge against an inflationary period, since at the end you are actually buying production capacity - question from Manuel.
Rafael:	**44:13.91**	I just remembered the other part you said. I'm sorry, I'm going to answer something else first, and then I'll answer yours. There is one thing that I heard people comment about, that I think Andres asked about, was the TIPS, gold, and others. I think that you also have to take into consideration how you are going to manage the portfolio, so I often say, for example, comparing gold and silver, gold has a monetary component, mainly monetary and then an industrial component. It is quite different from silver, which has mainly an industrial component and then a monetary part, and then most of the commodities are

fractional by nature. That is, their price is always going to tend to go down. So, when people are looking at the world from a variable-only perspective, no longer that you're not going to do any kind of tactical management and you're going to give yourself a fixed allocation. That is where I prefer gold rather than something else, but that is perhaps a personal selection. Now, in a tactical part in which I know that somehow those percentages are going to move. I think it makes more sense then to include various types of exposure to the same economic scenario. I'm hearing a little bit of a weird noise in the background, I don't know if you guys can hear it as well.

Rodrigo: **45:25.88** I'm lowering my desk, don't worry.

Rafael: **45:27.31** How posh!

Rafael: **45:29.36** Okay, moving on to the next question, which I forgot again.

Ignacio: **45:33.58** I'll read it to you.

Rodrigo: **45:35.95** It was something with …, wasn't it?

Ignacio: **45:36.59** No, no. It's from Manuel, "Actions to protect against inflation".

Rafael: **45:40.02** Ah, yes. Well, historically no. The reality is that historically no, because we'll be back talking about how inflation is very broad. So yes, in moderate inflation that would be the case. I think you explained that it was good, because it's part of the production of the company and that makes sense, in fact, it can be fulfilled when inflation is moderate. When inflation shoots up and also you do not foresee it, that is disruptive for everything, for the production chains, for supply, for logistics, for everything. So in these scenarios it is not so favorable for companies. Companies cannot incorporate it quickly. And then there is another issue, which is that it's true that inflation affects companies, but what affects companies the most is whether they have growth or not. That is much more important than inflation. So in the end that ends up dominating and if you have moderate inflation but you have a recession, it doesn't matter, because you have no one to buy from you, you have no customers. That ends up affecting much more. Also, I recently saw a graph, I don't remember where, I think I saw it on Twitter where they shared a graph that showed how the inflation and growth scenarios-- I think it was Carlos from Icaria the one who posted it-- a graph in which it could be seen that this has not been the case, although in some cases it could be the case.

Rodrigo: **47:14.11** Yes. In terms of action, there are certain actions that obviously can.

47:17.854 …

Rodrigo: **47:17.99** Like you said, depends on the speed. Remember, the growth of an economy depends a lot on how much you can plan from here to six 6-12 months. If inflation is rising like in Lima in 1989, 7,000% per year, then there is no planning, you cannot plan, there is no business. People stop and say "Let's see how everything goes, and from there start to make more growth plans". So, when there is inflation that is out of control, growth also goes down. The growth of the economy goes down and the only direct way to protect yourself is through commodities and gold, and if there are what didn't exist in the 70's, the TIPS.

Rafael: **48:14.23** The doubt always stays-- Browne, who was also a libertarian, in some of his books, he comments that there's also that other doubt that, the moment it gets out of control, you trust that the state is not going to suddenly change the rules of the game, the fine print of document. They are not going to change it, if you are seeing now with some ETF's that all of a sudden they change the regulations and the prospectus. We would have to see what happens. Have …. ever existed in a hyperinflationary scenario? I don't think so because they were created after that.

Rodrigo: **48:58.24** … were created in 1997 by the American government. Pushed a lot by them, they created the concept and they push it with the government. So it is relatively new technology. We saw inflation from 1999 to 2007, in which there was inflation, inflation with growth.

Rafael: **49:22.18** With growth.

Rodrigo: **49:22.75** It was growth, not inflation. In the 1970s, the purchasing power of the American dollar fell 50% in six years. In contrast to the type of inflation in the 2000s, which was more industrial, it was demand for products, it was growth and it was gradual. In fact, the best returns you could acquire there was to buy gold, commodities and world stocks based on commodities.

Rafael: **50:00.42** Emerging stocks, etc.

Rodrigo: **50:03.08** I did a risk parity test up to 1925, and instead of using gold, I used the gold mines during that time and they did indeed work. The only thing that made money during the depression was the bonds, the gold and the gold miners and in times of inflation also the miners. So there's something there to continue to protect inflation.

Diversification and the Sequence of Returns

Ignacio: **50:37.11** Great. Let's move on to the next block which is very similar, but we wanted to talk about the sequence of returns and the importance of diversifying, precisely because of this, because sometimes we say we want to diversify between factors, between locations, between entry points and even between factors between the ways in which you measure them. But all this comes from the sequence of returns, if it's not diversified, you are exposing yourself to a risk that you may not be able to recover. In fact, Rafael was talking about it at an event, and even you in your podcast, Rodrigo. You were talking about a 30-year period, which would have been a period of 8% growth and yet it had been 0% at the beginning of 6% at the end. Two people who retire at the same time, live two completely different scenarios. One is terrible and the other is a wonderful.

Rodrigo: **51:29.80** What you get in return is the most important thing and it's pure luck, especially when you're depending on one type of investment. At that time I think it was '81 to '97, something like that, the average return was 8%, but in the first 16 years it was 0% and the last 16 years it was 16%. If you retire at the beginning and you're taking money out when it's not giving you a return, you'll run out of money in seven years. Something like that. But if you were lucky, that on average is 8%, but if you had luck the of 16% a year for the first stage of your retirement and then 0% in the second stage of your retirement, you end up dying and giving $3 million from your portfolio to your kids. So same average return, but the sequence is not.

Rafael: **52:24.08** Same portfolio, same everything.

Rodrigo: **52:26.21** That's what a lot of people don't understand. When we talk about equity, mostly right now that the world that has low returns, we need to have 4% a year to be able to have a good retirement, etc, etc. We have to put 100% of our money in equity, because bonds are giving us 0.7%. Unfortunately, that hope of having a positive return sometimes doesn't happen for decades. We saw it in 2000 to 2010. I mean, we don't have to go very far to realize that we can do very badly in retirement. So, like. How do you minimize the chance that you will have ten years of poor return?

Rafael: **53:08.57** There's one thing that they always tell you that is, of course, you make really good money. It's like blackjack, but in our case, of course, as you put in little by little, you don't really care. I always say that whenever you start from zero, at the moment when you already have a patrimony and the amount that you contribute is not so relevant, then it starts to be a problem and I think that also one thing that happens a lot on the internet, on Twitter or in groups, in our Telegram group, etc., is that many people who are joining, getting interested in social networks investment are young. So they have that perspective, but they forget that there are a lot more people investing and a lot more money, that is not young and that already have heritage.

Ignacio: **53:52.88** I had clients that I acquired in 2009, that their retirement year was 2008, and their portfolio dropped 50% a day, a month, a quarter before they retired. They had done everything correctly, but their previous advisor put 100% in equity. Also they were in Canadian, and in Canada everybody wants to put all of their money in the banks, because banks give dividends and they are blue chip and they are super safe. They fell between 55% and 75% that year. You can imagine the people who thought that this was safe, that they had done everything from stock average, but their portfolio the year before retirement fell 50% and many people say "Well, if I'm going to retire, then I'll stop here and I'll put everything in cash". So they closed the year with cash and a loss of 50%-60%. This happened to many people. So not only is the sequence of returns important for mathematical reasons, but also for psychological reasons.

Rafael: **54:59.180** Here also a curious thing happens one day talking about you, Rodrigo. The issue in, for example, a dual momentum type system, simply the fact of starting to invest or have your signal at the end of the month or beginning of the month, can make that in two different years an investor has a plus 15 and another -15. Is that difference already dragging on for years? Or well, I'm not telling you, with the momentum it was different, another different herd between 11 or 12 and that's it, you know? So it seems silly. We say you have to diversify. There are also the type signals at the time of entry, but it is that at certain times,

		especially in type signals or honor, the difference in profit, loss in a year can be abysmal, that is, it can be dragging it for a decade. And I know that it is when simplicity leads you to fragility, but it is not, it is that it is not necessary to go to a strategy that at the moment goes…
Rafael:	**55:51.31**	There will be people who will know what it is, but others will think it is Chino.
Rafael:	**55:56.36**	It is that a portfolio of equities and fixed income I read many times look, you put this portfolio and slipping to the day of your birthday, that is very bad advice, that is very bad advice and you hear a lot the day, your birthday and it does not matter, it does not matter if we have not checked it. Ignacio and I have a very, very simple little article explaining it. No, no, no, no, it doesn't matter if you balance your portfolio because you had your birthday in February or March of this year, you will have seen that the difference will have been important and there are times when it didn't come out. I don't remember, I don't want to invent the figure now, but the difference in profitability, in profitability was quite dramatic.
Rodrigo:	**56:33.26**	No.
Rafael:	**56:34.25**	It's not good advice, it is, and yet it's one thing you hear very frequently. I hear it very frequently.
Ignacio:	**56:41.54**	Among that I have.
Rafael:	**56:42.39**	Improve my supervision.
Ignacio:	**56:44.27**	I'm going to share something from our friend Cory Agustin with us and we'll take it out.
Rodrigo:	**56:50.33**	A.
Ignacio:	**56:51.73**	An index that tries to minimize the number of decisions you have to make. And part of the presentation is this. So what? What kind of returns do you expect each year? I mean, we are in the years 2009 to 2018, depending on what month you decide to have what is called the look back, that is months if it is positive or negative versus bonds, I get in, if they are not, if they are negative, if it is negative with pro bono, if it is positive, check, quote and depending if you are using the last six months, seven months to 12 months, look at the range of returns that one has between 19% to 9%. In blue you see the best returns. It always comes in orange, you see the worst ones.
Rafael:	**57:42.98**	I don't think we're looking at your screen, really.
Ignacio:	**57:45.24**	No, I am not notified.
Rafael:	**57:54.11**	So. See you soon.

Ignacio:	**57:55.13**	Looks like. I've seen it. Basically here on the left. Year of 2010, 2009, 2018. Here at the top it shows how far back are you going to make your decision whether you're going to be invested in the market or not? Six months to 12 months and it's all momentum. That is, when someone says what kind of tactical decision to make. I'm using Dream. I'm not deciding through Dream. Well, depending on whether you're using Facebook's which is ten months, Anton H's which is 12 months or I don't know, six months. You're going to have drastically different results, but they all have the same concept. I want to get out when the market is going down and get in when the market is going up. So how do you decide what's going to be your trigger? It's going to be your birthday, it's going to be the year, it's going to be the 16th of the month and depending on what you do, you're going to have your portfolio, it's going to have different, I mean, drastically different results.
Rafael:	**58:59.25**	Sure, it's very curious this, but I can't go back to the previous slide for a second to make a point here. If you look at it, I understand. In orange are the worst years. Well, most of the worst years coincide right next to most of the best years. 9,10. A system if it is presented.
Ignacio:	**59:19.97**	A little over ten months.
Rafael:	**59:21.67**	But you're taking a gamble on the worst year because you're looking for the best year. It's a big risk, all in all.
Ignacio:	**59:29.580**	It is the difference between using nine months versus ten months was minus 9% versus plus 12%. So it's important to diversify your signals. That's the point of view of this presentation that we did.
Rafael:	**59:44.35**	I don't know. To me this one always catches my attention when someone does a back test, the first thing I look at is this to see when you see that when it is something tactical, usually as are the signals. It's not that I've found the parameter that gives me the exact parameter that gives you the maximum return with the data that you already had. Not very well, I'm sure it's going to be the same exact one that's going to work in the next few days. No, it's just that it's a little bit.
Ignacio:	**01:00:11.40**	And it is important to diversify, is equal amount of signals. This is the issue of having a signal. Here is what you would be investing, if I think here we are giving 12 months. What you don't see tonight is that at every moment you have 100% certainty that you're going to make money in a week. So the question that I have always asked, when we have had in the market, thinking that we have something 100% for sure, that is, you never have to have a little bit of humility in the market, it grabs if you use different methods from between two months to 18 months with Moving Bridges, etc. etc. This is what we did in our paper. You're going to end up with a change of doing classes that are a little bit more humble, right? There are times that you have is always more gradual. You are already saying I think that there is a 70% chance that it will be eco, ten American, 30% that it will be international and 10% that it will be bonds.
Ignacio:	**01:01:13.77**	In other words, a little more humility. And that is what creates that, a little more balance.

ReSolve ASSET MANAGEMENT

Ignacio: **01:01:20.64** Here what we have done is all the results in order from worst to best. This is called a piano chat and what ends up happening with when you use all the signals is that on the yellow line it shows that you have a sharp return per unit of volatility of the highest, without having to try to guess which of the parameters they are. Are they going to be the ideal ones?

Rafael: **01:01:45.81** One question Rodrigo. In view of the fact that this is something that improves quite a bit when you are improving the Sharpe, here you are not improving because you are improving the profitability, but because you are lowering the volatility.

Ignacio: **01:01:58.89** It already lowers your chance, it lowers the chance that you will make a mistake. No, here are the five worst portfolio drawdowns. When you use any of these, you have declines between 22% and 12%. When you use them, you use all the signals. You end up having a decline that is in the top 1.99%. In terms of managing your risk and not having to predict which of these signals is the best.

Rafael: **01:02:32.92** But is that I think a conceptual problem that has this idea of temporal diversification or I don't know what to call it now, but what goes from luck with the timing of when you make a decision that can be again and we go to the easiest. Rebalancing a portfolio goes well because in Old Spice … and rebalancing is usually not viable and we forget. So that rebalancing introduces a point of luck at the time you make the adjustment. And I think the problem for a lot of people in understanding this is that it's a type of risk that a lot of times you don't see. So you can be managing that risk and someone who is not managing it does not, because the risk does not materialize. You come in, it seems like you're doing one thing that's not doing anything is you're adding unnecessary complexity. No, I'm not adding complexity. I'm not adding unnecessary complexity. I'm protecting myself from a risk that may not have materialized, but just because it doesn't show up doesn't mean it doesn't exist.

Rafael: **01:03:27.56** And above all, pretending it doesn't exist doesn't make it go away. That above all. But it is difficult to understand. This is difficult.

Ignacio: **01:03:35.90** Decisions, based on what happened versus what is logical, is a problem. In March the ten-month look back that you took out at the end of February. And that's. I think everybody who did Love Me Forever was happy as hell. A person who used different specs. I have one person who used something different because he had found that using 13 months. It worked better for him because he did better in 2008 and obviously it didn't come out on time and it all fell through and then it came out effective at the wrong time. After that event, he changed his system from 13 months to ten months.

Rafael: **01:04:18.07** Of course, but that is a retrospective.

Ignacio: **01:04:20.02** It picked up noise and took it as a signal. So there is a lot of noise in everything that is the market. I am again trying to simplify it. We started with the idea that we don't have the ability to make these decisions and that is a structurally diversified portfolio, be the first one in Portfolio City. And so what we are talking about now is using certain parameters to decide when we should stay in or get out, or minimize or increase a portfolio. I am not in favor of trying to use global macro fundamentals to try to predict what is going to happen to the market in the future. What we do know that works is something more disciplined, systematic, where you say these are the rules that we are going to use to take these actions of decreasing or increasing our portfolio positions based on Trend/Momentum Finance theory. I would rather have those tilt than try to predict that there's going to be inflation and I want to give you more gold. It's watch and change. It's the most, the most obvious thing to me, for a person who already has his basic portfolio diversified.

Rafael: **01:05:35.17** Many times I like to explain that just as we know that there are different economic scenarios and there are different assets that are favored in each economic scenario, we also have different market environments and in the different market environments, the different ways of managing your portfolio, which could be with a mean reversion strategy, as it could be some kind of forward or trend following. They are also more or less favored because there are times. The other day I was reading the paper you sent me from a long time ago, which I thought was very funny. It's about Dr. Jekyll and Hyde as the market itself. It has moments where just by looking at the chart you see that there are moments where there are prolonged trends sustained over time. Fairly calm markets and then all of a sudden, moments where that goes, it goes crazy. I was very amused that I didn't know that, that just watching, measuring I think it was volatility when prices are above a moving average and matte more or less medium term not.

Ignacio: **01:06:32.07** But it is that.

Rafael: **01:06:33.00** But then I checked it with different ones. I said Okay, I'm going to do the same experiment with 100 days, with 150, 250, right? To see if it was again a little bit of a random issue. And no, what you see is that indeed, there are times when the markets have a behavior and a market environment defined. And there are market environments where things are more volatile and sideways. So there are things that work when markets are volatile and sideways, portfolio management strategies and management strategies that work best when there are prolonged trends over time that can be positive but can also be negative. And then that's where that tactical component comes in which I think goes a little bit further again in the sense of diversification and also in the sense that as people say, is that if you do something tactical you're trying to predict. No, no, no, what I am not doing is what market environment I am going to find and then I use different risk management strategies, because for me … is a risk management strategy. It is not a strategy of optimization and prediction in the sense that I know what is going to happen and that is why I do this.

Rafael: **01:07:37.68** If you use them as risk management strategies, I think it is one more step on the road to a truer, more real diversification. And then the next step is to do it gradually. What you said happened to me when my first signals in February, in the part that I manage with a trend portfolio in River Patrimonio, began to indicate exits. It would have been better if I had exited on the first day. But I did not wait. But my misfortune. Maybe that.

Ignacio: **01:08:06.13** 100% violence.

Rafael: **01:08:07.96** Then. So. Now what am I going to do? Change the strategy to say no? Now we change it. No? My strategy gradually went out and gradually came back in. That made me in this scenario, lose something. If it made me lose something in some assets, why not in others in gold. It made me stay invested and it suited me quite well. But it doesn't make sense that every time you're looking for the big benchmark. What does make sense is that when you see those market environments materialize, if you can protect yourself in those that you do it gradually.

Ignacio: **01:08:42.13** It's interesting, that idea. Because when you talk about tactical things, especially in, say, in something like.

Rafael: **01:08:51.28** On guerrilla warfare.

Ignacio: **01:08:53.20** If you have you are changing your exposure to certain markets. Unfortunately, diversification is either structural diversification or tactical diversification. Diversification works even when you don't want it to work. Oh, and the big thing is I got to see, see what we do there on this website. How many years of … was it? Did it do better than the options you had? The options were energy markets, emerging countries, developed countries, United States and bonds. In how many years was it number one that was perfect? The tactical change to make, to basically take out in the 30 years, I think once or twice, because we are using signals, as you say, to minimize the risk of sequence of returns.

Rafael: **01:09:50.32** It's just that by definition, by definition, it's very difficult for you to win in the short term.

Ignacio: **01:09:55.59** Portfolio, if what that portfolio accomplished is that the hard dips it decreased and the hard dips, the hard rise it also decreased. It was basically it was in the middle, every year a little bit higher and year after year after year after year, what we ended up with is a calmer return sequence, without the hard fall and enough, enough tactical exposure to teams when they were doing well, that it was better than having a diversified portfolio? No, but at any point you're going to want to kill yourself because there's a piece of it. Your portfolio is falling hard when you could have had 100% of your portfolio somewhere else that's doing well. That's a psychological problem. But I do like that framework where the tactical thing is.

Rafael: **01:10:48.21** Risk management. Right. And I want to ask, if I could ask a question to the one I asked, introduce the topic of tactical portfolios. The other time, a question that was brought to us from Twitter, which is what options are there now that the bond market is looking bearish and it's certainly not going to or doesn't look like it's going to rent as much as it's been renting the last few years the TLT, which has been spectacular, which looks almost empty. Equities. What options would there be for a style strategy to complement or play off of equities? You mean a cliff? The cliff of in a tactic up to the occasion. You realize that bonds may no longer be the best option? Okay, okay. I got your point. Well, I think there are two parts to it. The first one I think is that whenever I have seen a strategy like equity or long term fixed income, it has always caught my attention a little bit because I said, let's see, the … has behaved better than the … does, I mean.

Rafael:	**01:11:54.51**	In fact there is a very funny anecdote which is that the famous bet of Warren Buffett with hedge funds Warren Buffet.t For those who do not know, Warren Buffett bet with a Gets Fund that the SP500, a passive strategy or an index is going to beat another investor who I do not remember who he was, who selected a series of data, that is, a fund of funds of different hedge funds and in the end Warren Buffett won and what they had done is to bet an amount of money, each one, and then won and gave it to an NGO. But what they never tell that I do not know who did this, but then I checked it and I find it very funny, is that who really won was that the money they decided to bet. One bet $1 million and the other one bet $1 million. I think it's gone. I don't know what the amount was. They put it on Bounce, they put it on TLT and TLT beat the SP500 and the fund of funds.
Rafael:	**01:12:45.62**	So in the end the real winner was not Warren Buffett.
Rafael:	**01:12:49.42**	The real winner was … bet. So where am I going with this? It's just that whenever I saw those strategies I always said man, it seems a little bit cheating to me to go to that asset. I don't consider it such a risky asset. Would it make sense, for example, for you to take bonds with a little bit shorter maturity? I see that as more, more of a lower risk and also they would behave better in a difficult environment. In other words, they are less affected, for example, by changes in rates. So that would be a 1/1 and then 1/2. From the answer would be that since you're going to do something tactical. It can be tactical on the part of I'm thinking tactical thinking about the typical strategy that they'll be thinking about for this one. For this case, that would be some kind of smoke moment type thing, or some kind of strategy so not of absolutes. 30 or I would imagine that's where the shot is going, since you're tactical in the part, in the part of risk on can be tactical also in the part of risk off there are other assets that you can choose tactically to protect yourself.
Rafael:	**01:13:51.13**	Not only do they have to be bonds, is that we're back to the same thing, yes, if you start again that there's a world beyond stocks and bonds, well then you could do two baskets, risk on and risk off, manage them tactically and then see what happens. And then the attraction is just to have them both in the portfolio and manage the weight, what they do or don't do in another one. You don't have to always be 100% in one thing to 100% the other. And there again that comes in. You could do nonsense and you could do some kind of, I can think of so off the top of my head I'm talking nonsense, but that you can do a lot of things, but that you don't, you don't have to do just stocks and bonds. You can incorporate gold, for example, more.
Ignacio:	**01:14:26.77**	In terms of trend and momentum.
Rodrigo:	**01:14:29.74**	Hmmm.
Ignacio:	**01:14:30.46**	I mean, it hasn't happened, has it? That's the difference between doing a back test and seeing what happened and just creating a strategy in which my idea with that past 30 or 40 years, versus trying to use your imagination and say what happens, if of course, bonds are worse than cash, then you can do with the same GEM theme. That is, if equity falls low in the last 12 months, buy bonds only. If bonds are also in a positive trend. If not, no positive trend, then …. The other issue is already going beyond equity and bonds, as I showed you in the seventies, the reasons why fixed income and echo over time often has

to do with inflation. A lot of times the correlation comes through inflation and what works very well in your tactical portfolio is to use gold, where it does much better than gold, like BTC. What you can do then you don't just have to laugh at one. In an inflationary world it's often not effective either, you have it in cash and your nominal portfolio in your savings account is quiet, but your ability to buy international commodities is being cut in half.

Ignacio: **01:15:56.44** We have this idea that cash is zero risk. As a Peruvian, that he had to leave Lima and go to Toronto because of hyperinflation and lost everything. That is why his whole family lost everything because of this inflation. I am very clear that not taking a position in the market, having it in cash, is a very big risk and diversifying globally is always the only one, it is the only neutral position.

Rafael: **01:16:25.51** In fact, not taking a position in the market and getting into a brawl is taking things on.

Ignacio: **01:16:29.65** A very aggressive position, very aggressive.

Rafael: **01:16:33.28** I actually have a funny anecdote which is that my first variable portfolio, which I call variable portfolio, 5% of my money, with which I allow myself to do something, a little experiment or whatever.

Ignacio: **01:16:45.34** Think a GameStop.

Rafael: **01:16:46.66** Exactly. That kind of thing. Wall Street, Mets. I'm really into it with an unrecognizable nickname. Right. Ortega. Last name?

Rodrigo: **01:16:54.40** Exactly.

Rafael: **01:16:55.54** He gave me last names. Well, my first one, my first variable portfolio that I built a little bit to play with, it was almost a *Tactical Permanent Portfolio.* The thing is that it spent so much time invested in stocks that I left it. I said it's not even fun because it's always there. I didn't start it, it's not fun. Then I stopped doing it and recently with someone's question I remembered a little bit. There were some rules, a very simple thing, hey, it happened in one asset, in the other one, that is, sunset, gold or bonds or equities, 100% programs. It was a bit of a beast, to be honest, but the other day I did the simulation, I went in to see what would have happened and it would have worked.

Rodrigo: **01:17:37.42** Perfectly.

Rafael: **01:17:38.92** And I said let's see, look.

Ignacio: **01:17:40.72** It is not. It is the emotional part, the most difficult part.

Commissions, Taxation and Regulations

Rafael:	**01:17:45.31**	Yes, yes, totally. Well, guys, if you think so, let's move on to another block because we have already had a … and there are still a lot of questions from people who keep asking us. I also have some questions for Rodrigo. If you will let me be clear, I would like to talk a little bit about taxation, commissions in the implementation, strategies, especially from a European point of view and in this case from a Spanish point of view, which is for most people. You are listening and here I have a question from Hugo who talks about the question is beating race? In fact Rodrigo but come on, is that strategies or tools that Rodrigo uses and implement them in River in case they did not exist regulatory or for example you did not have. In the commissions that we have here. The taxation would be similar to the one in the United States, if not the one we have active and currently the funds are much better treated than in the United States. I don't know if there's anything else that they're not going to make more frequent or anything like that that you would want to include.
Rafael:	**01:18:39.42**	Well, let's see, the funds really with the conditions that I have within the mutual funds are pretty good.
Rafael:	**01:18:45.24**	They allow you to make frequent evaluations. And I think the other day commenting on Twitter, I think with Omar who is a very active member of the group also and I think you answered him Rodrigo. But he was talking about that a retailer, when he does an operation is the idea that revaluation the more frequent, smaller is better. Actually in that idea it is better and it does not increase turnover. But of course, if they charge you for every operation you do, you're fine, which is the problem, you can't do it. The truth is you can't do it in a mutual fund, by the time you already have a large net worth where the cost of the transaction is already pretty ridiculous. Almost. Well, you can afford it. So, in that sense, I believe that I am not, I am not limited in the investment fund. What does limit you quite a lot in the … regulations. But it is also true that it is because, because the funds are useful, because they are useful, because the funds are what the retail client, the majority of people can buy.
Rafael:	**01:19:47.94**	If you become a hedge fund. As the name suggests, you can do whatever you want. What happens is that marketing it is much more difficult, especially if you start like I did two years ago, with three followers on Twitter: my mother, my brother and a friend. In other words, if no one knows you, it's impossible for you to get that vehicle out there and be able to market it. That said, I think in the end I would just change the last part, the part about what are the … that you end up using to make up the portfolio. But the answer I think you have in academia. If you go to academia, for example, when we talk about momentum, I for example, I can use an ETF that uses momentum, but I can't do long/ short momentum or long momentum. And I take away the market. I can't have exposure. Only to that one, to that one, to that factor. I don't know if I'm explaining myself.
Ignacio:	**01:20:45.28**	But no, no, no, no, yes, yes, yes, if you have that, you have that doesn't make you clear.
Rafael:	**01:20:49.41**	I can do it. There are some things that surely the last step would be the building blocks, the bricks, the end bricks, that is, the vision of the market would be the same, the philosophy would be the same, my way of implementing it would be the same. Surely if I had the ability to choose better pieces to do that with, I would do it differently. And some

of those ideas that are simply the ones that are in the academic world, well when you have the resources to be able to implement it you can do it, but I don't have those resources and in the end I have the resources of an asset selector, not a non-asset selector. I don't have the ability to create my own, my own, my own exhibit. I think you guys do have that ability that you build your own with God.

Ignacio:	**01:21:38.18**	Unique thanks to God.
Rafael:	**01:21:39.76**	Tools by.
Ignacio:	**01:21:40.96**	The whole arsenal is what I want for myself, my portfolio, my family and whatever I end up doing is a … . My portfolio is Hariri but using futures because we have 70-something different markets.
Rafael:	**01:21:58.57**	World every two to expose you to.
Ignacio:	**01:22:00.72**	Put me. So that gives me a level of diversification that we've written in our paper, which is about 13 different orthogonal bets with.
Rafael:	**01:22:12.07**	Capital, literally different. That's the. That's the problem. I believe in the one that I have limitation.
Ignacio:	**01:22:16.93**	And when you have a … good, it's a more complicated world, it's future. I have a portfolio, 100% in my portfolio, in my PR and then I use leverage for 200% more using long and short. Not only train, not only momentum, but also my new version. How? How do you say if they sounded in English? Seasonality station. This carry. Volatility. So I have that part that gives what is called upside. And on top of that you have. One of the big dilemmas with any portfolio is that especially tactical. What I'm talking about, which is the best and … , is that at some point, when the chaos is so great, in the last few I breathed and it did very well from February through March 18 last year. The 19 to 22 was when there was so much demand for anyone wanted to play the game and there was too much.
Rafael:	**01:23:18.31**	Thank you.
Ignacio:	**01:23:18.91**	From selling that even gold and sovereign bonds did poorly, right? And that is the moment of lack of liquidity and the only thing that can protect you there is to have an exposure to volatility and there are instruments in the futures market that are VIX, that basically you get rid of how much the market would have flipped. So that's 1/3 that I have, my portfolio. And the last part is the opportunistic part. Things, for example, like market volatility was as low as it was. We had basically seen the story in February last year. You can buy very cheap options that if you don't lose and nothing happened, you don't lose much, but if you gain you gain quite a bit. Now we are seeing the same thing. The volatility of corporate fixed income. That's the lowest we've seen it in decades and then it costs you nothing to buy options for that. From there you can put a tiny little bet that if it pays off, if it doesn't, if it doesn't, you end up spending 12 months and nothing happens.
Ignacio:	**01:24:21.95**	It doesn't operate much, but if it pays off, it pays off.

Ignacio: **01:24:25.90** So those four components is what I have managed to do for my portfolio, for my clients and I show you stocks or you are a fan in Canada, our mutual fund in the United States and our hedge funds. But for a private person you're right, I mean, trying to do portfolio construction, I mean several different ways in and out. If they're charging you $8 every time you get in and $8 every time you get out, you're not going to be able to do that, but I'm protected. We talked about this at Interactive Brokers. In Spain they charge you for buying and selling, they charge you for the amount of shares that you are buying, selling. In other words, is it commission per share or is it commission per activity?

Rafael: **01:25:10.36** It is the percentage, if I am not mistaken, but there is a minimum.

Ignacio: **01:25:15.26** There is a minimum.

Rafael: **01:25:16.22** But I guess it will depend a little bit on the weather. It's all the same to you. It depends on your volume. It depends on your volume. It depends on your block value.

Ignacio: **01:25:21.72** Well, that's why we exist, unfortunately. If you want to have a little bit less risk of getting ripped off in your own portfolio, you have to get good funds that are doing what your values, in which your values align to that. And here we have an audience that, maybe they're individuals, they're going to do it for our upside and that's what they like and they like to learn a little bit more to do on their own. Cool, but there are many people here who say I align myself, I would like to do it, I can't, I am willing to pay 1% a year to have that, that activity. And that's how they do it, that's how that industry is created.

Rafael: **01:25:59.18** I had a doubt then to ask you, Rodrigo, because the continuation of what I was going to say is that there is one thing that I have always thought was missing in one, that is, for example, in that part of the liquidity crash there is no crash because there is a lack of liquidity. That is what Browne is somehow saying. Well, since this could happen, I have cash. That's what makes the portfolio conservative. In the end, that lowers your risk exposure and then you lower the expected return of the portfolio. But when you don't have cash anymore or you don't have that much cash anymore, or you just have it tactically, right? And when the trends are not prolonged, in time there is a drop, like, I don't know, 2008 or a fall. Well, it's something more like what happened this year. I mean, it's a flash crash. There's no, *strategy three* doesn't cover you. And then there's the last part of the curve, that's what doesn't protect you.

Rafael: **01:26:56.26** So it has always, always given a twist to that. In what way could they be incorporated again? You have the problem that with a strategy that's either very expensive or because you always have to be hedging, that's very expensive and at least to do it as a, as a static asset allocation or something. Constant part of your portfolio. I see it is complicated. I know you have your portfolio, your ETF such that it's worked in this March, but you know it's a sure loss. So it's not clear to me either. Then I know the other day you interviewed… it's on ReSolve. If it's Nancy Davis who has that idea of volatility in fixed income rather than … , then. Well, and the truth is there are options in the market to do that. And I am. Every time I see something from the study I send them to regulation and regulation and they tell me I'm talking to them. So, in the end, I want you to know that I am already there.

Let's see, I try to push the limits of the regulations as far as they let me, so I ask myself everything, but there are things there that are interesting.

Ignacio: **01:28:01.22** Think of it this way, was it growth or inflation we were talking about? Growth.

Rafael: **01:28:08.69** Ok.

Ignacio: **01:28:09.83** Unfortunately there is a third dimension which is liquidity, and what we are doing with this diversification is saying when growth is absurd, I am not going to participate so much in that growth because I have these other stocks that are there for me. In other words, I want to have a growth neutral position, but have an inflation neutral position. Unfortunately, the Browne portfolio, the Spirit portfolio, does not have a liquidity neutral position. When there's enough liquidity in the market, everybody wins. Gold wins, commodities win, fixed income wins, ... wins. If you want a neutral position, you don't deserve that excess return over those years. You don't deserve it. It's not neutral. You're having a trend that's out of your control. And when it drops hard, like it dropped in March, like it dropped at the end of October 2008 and today, that lack of liquidity, you deserve that, that, that drop, because you didn't deserve what happens in the previous years. So, then this changes a little bit.

Rodrigo: **01:29:16.86** Now we are in the psychological part and in the part of having a calmer series of returns. So if you get there and you manage to have a tail protection, then it'll remove all that excessive liquidity. You are basically paying to have short volatility or long volatility. When it comes to that, those options pay you. That's the way I understand it. If you want it neutral, then it's neutral. We don't. I like liquidity, I like to have it. We are very tactical on how we use volatility. A lot of times we have zero volatility, a lot of times we have short volatility, 1% or 2%, but when it's time to get heavy into volatility we get up to 10% because diversification of long/short covers most of the left tail. The Sharpe moves. And we only have to cover those two or three days.

Rafael: **01:30:18.95** There is one last part, is almost the same as volatility. People only get upset when it makes them lose. When volatility makes them win, everybody thinks it's phenomenal. It's very volatile, same with liquidity.

Ignacio: **01:30:37.41** Okay, let's continue with the questions we have from people. If we can't answer, because I think we need to end it at 2 hours, I will put them on Twitter and we will answer them on Twitter. Ok? Because we can't be here until tomorrow. The last time we met, you talked about the *SQ factor*. And regarding that I was asked several questions. So can you briefly explain what you mean or how you would describe the SQ factor, how you calculate it and what advantages it has over all kinds of factors.

Ignacio: **01:31:15.67** Basically with SQ we're trying to do the same thing as mean reversion, we're trying to see... What's 'mean reversion'? It's that we've got a stock that's gone parabolic and it's way, way off its average. So the strategy is trying to see what percentage. Is it at 90%? Most of the time you're not invested in that, you're in cash and then you see it, you short it or you long it, if it has fallen hard. With SQ we're looking at the distribution of that same stock at different fractals.

Rafael:	**01:31:57.70**	Fractals.
Ignacio:	**01:31:58.88**	So you can try to understand the distribution over the last 200-something days, the distribution over the last 200, 200-something months, the distribution of quarters and see, see what the average distribution is versus the recent distribution. And that contrast is when you can see if it's had a more positive series of days than is usual for that stock and what you would do is short it. That is, if you have a series of positive days that are out of the ordinary, you short that stock. If you have a series of negative days out of the ordinary, you would long that stock. And how do we do that? And you know the interview I did earlier. It uses different methods of measuring that. Time fractals. Different time fractals to have a little bit of signal diversification and then diversify further through all the actions that you can do.
Rafael:	**01:33:07.04**	Of course.
Ignacio:	**01:33:08.01**	It's a mean reversion in which you're always investing either long or short.
Rafael:	**01:33:12.43**	Let's say that instead of looking at the distance to the average, what you're looking at is the distribution of the daily returns of a stock. So when you're shifting the curve...
Ignacio:	**01:33:22.80**	... when the curve is shifted to the right or left, you're taking the opposite position.
Rafael:	**01:33:27.16**	Of course. In Spanish, SQ means obliquity. So it's how symmetrical on or how asymmetrical is that distribution. That's what it's saying. When it's not symmetrical or when it's going away from the supposed symmetry is when you're detecting that there's something a little bit off there, just like kurtosis detects how wide are they... so, it's also a measure of the probability distribution of the returns.
Ignacio:	**01:33:56.29**	And I tell you in March it was difficult to keep an SQ position. It was all: buy more, buy more, buy more, work and it ends up being the best strategy, but it is the most difficult to implement.
Rafael:	**01:34:08.62**	Another one about factors. This entry on the … of Antonio Martos asked us I think, it's a question of what gives you more security? A system-- of any style, diversified, tactics, whatever you want, based on momentum or based on seasonality? Momentum is a more difficult way to understand returns. There are many ways to explain it... The news has been undervalued or that people invest in what's trendy. Well, there are many theories and seasonality is much more tangible, isn't it? At the end of the day it just works in certain periods of the year in a systematic way. So what gives you the most security? What do you think is the best way to approach the market?
Rafael:	**01:34:55.92**	I have not studied seasonality. So I can't speak for seasonality because I've never, I've never studied it. I've always relied a lot on the academic side and I think in the academic world at least it's pretty clear that momentum is the anomaly. The number one of market anomalies. And I think they have an explanation. I also believe a lot in the behavioral part. I mean, it seems to me that if the behavioral explanation convinces me or I think it makes

more sense, that's when I trust the most. And I believe that momentum has a very, very obvious behavioral explanation. Just like my ... , I also believe that it has a very obvious behavioral explanation because in the end, I see-- and this year has helped me to fully believe in this: prices affect people's minds. It's what most directly affects people's behavior. So that is my answer, because I know nothing about seasonality.

Ignacio: **01:35:52.00** I'm trying to look for a presentation that would be interesting, but basically the answer is I don't have a preference because I would consider all of the different factors: 'SQ', 'momentum', 'trend', 'value'... and the percentage of return using the signals from each of these varies every year and there is no rhythm. It's, sometimes it's seasonality, sometimes it's momentum, sometimes it's value. So, if you don't know which one will do better, as always you have the possibility to diversify your returns.

Rafael: **01:36:41.68** It is true that value hasn't performed so well.

Rafael: **01:36:47.25** Of course, but there are a lot of things. That is exactly what Rodrigo said before, diversification works even when you don't want it. In other words, that is what you were saying, value is working very well in a diversified portfolio. If you are diversifying among factors, value is doing what it has to do, which is to work differently from the others and momentum is doing it better. And at another time, it will be different.

Rafael: **01:37:15.41** To me it seems a little bit, you'd have to specify a lot. I think the answer for me also is it depends on the assets. I think seasonality works much better on assets that you can actually find seasonal patterns throughout the year.

Ignacio: **01:37:29.89** I don't think, I don't think so, I mean, you can take if you have the seasonality in fixed income, for example, there is seasonality, it can show you in each year, which months of the year you are going to have to make money in fixed income and lose money in fixed income, depending on which country and depending on when they charge those taxes. For example, in the United States all their taxes fall in March. When the government recovers that money, they put it into treasuries. They are buying treasuries and you have a positive subnormal return in treasuries during that time, until they start spending it for national projects.

Rafael: **01:38:11.83** But then the seasonality is more marked. You have found a seasonal pattern, an asset due to something, but there are assets that will have a very little marked seasonality and it is not worth trading for seasonality, because they will not have marked patterns and others where you will have very clear peaks.

Ignacio: **01:38:28.18** And patterns for an individual stock. It would be more comfortable.

Ignacio: **01:38:34.75** But commodities are the most seasonal.

Rafael: **01:38:38.41** That's where I want to go, that the image will have much more seasonality, because they depend on, for example, if it's hot in certain areas or cold, more energy or less energy, the crops of the products and so on. There are many seasonal patterns that you can associate. However, there are other types of assets where finding seasonality is more complex because it does not depend so much on the time of the year.

Rafael: **01:38:59.50** That was my question, from ignorance, because I have never studied it. I understand that whenever to use seasonality with some asset, do you know why it works? Or there comes a time when you say look, I don't care, I see a pattern here and as there is a pattern-- or you just gave the explanation of why with fixed income in this country it happens this way. Do you pay attention to whether you understand the 'why', or you don't care?

Ignacio: **01:39:25.42** When you use the rule of big numbers, history matters less, right? Every investor needs to have an intuition. And the intuition is that when you start to feel the intuition of the equity markets, you start to notice those things, at some point you are going to stop and you are going to realize... if this stock, this commodity, etc., has this trend every year, then I will stop trying to understand why this corn has these patterns. Surely those who come and buy corn understand, they know. I don't need to know, I intuitively understand that there is a reason, I don't care and I know that in any given year it can go bad. So I want to add all the seasonality differences, plus all the actions I can to minimize my risk and have a positive return, which has a very low correlation to the rest of my factors.

Rafael: **01:40:27.46** I prefer to understand them, frankly. But many, many times they are more intuitive than they seem, things that you had never thought about before. For example, at Christmas you travel much more, in summer you travel more than in September and in March, for example. So the airlines' income is different, the hotel companies' income is different. I mean, you have, I mean, you can find really many, many reasons as to why seasonal patterns occur. However, there are other types of factors that are much more difficult to find the reasons. So seasonality is a little bit more tangible.

Ignacio: **01:41:03.76** Look, my opinion of that is that it's fine. I mean, everyone has to invest in something. The more you understand it, the more you're willing to stay with the system when it's not working. That's fine with me. And I've come to the conclusion that if I can understand why it's working... very well, but then I see that there are these patterns and I don't understand the rationality and I mean I don't want to get involved because I don't understand the rationale, but I do understand that there is seasonality. By not engaging with that, you're not giving yourself the opportunity to acquire alpha because you didn't have time to understand it and all of a sudden you include a lot of noise, but with that noise you also include a lot of signal in between these. So unfortunately, you're not giving yourself the opportunity to diversify. Every time we diversify, a lot of times it's noise. It's a matter of including a lot of signal with a lot of noise.

Ignacio: **01:42:04.860** The noise, which is a random … , gives you a non-negative return or a zero return and the signal gives you a positive return. The more positive signals you include, the better your return will be.

Rafael: **01:42:19.70** 100%. To wrap up here, the advantage of understanding it is that you also understand the day it disappears. So, the day that the United States stops collecting taxes that month or stops putting it into treasuries and starts putting it into other types of assets or... now, for example, I have a lot of friends trading at night in S&P, because they found that that's when people start purchasing or certain funds, start to pump money and so on. They've found the reason why to invest at that time of day. And it's a system that works for them recurrently, but they know that sometime the money flow will stop, and the system will stop working. If you just trade it because you've found it, but you don't understand what's going on behind it, it's more dangerous because you can suffer losses when that stops happening and you haven't realized it.

Rafael:	**01:43:05.75**	We come back to Rodrigo, because that's why you do it with so many and the more you include, the less of those affect you and we continue with the same thing.
Rafael:	**01:43:16.73**	If the result is positive... 100%. There is no doubt about it.
Rafael:	**01:43:18.87**	You have to add up. Understand.
Ignacio:	**01:43:22.77**	We use patterns to eliminate noise. We get to another level where we are using mathematical models to be able to define what is noise and what is signal.
Rafael:	**01:43:35.430**	I am still trying to understand that.
Ignacio:	**01:43:39.20**	My quantitative mathematicians have to bring it to you to show us the formula.
Rafael:	**01:43:44.21**	Well, it looks like we've finally gotten into a little more technical field. I'll make this simpler and I'll ask a question to wrap it up. Andres, thank you because you've been very collaborative with the subject. The question is a bit philosophical, what fulfills you more as managers or consultants? Achieving a more or less complex strategy, which is robust and goes to market consistently (complex and difficult to sell) or promoting a much simpler strategy, but one that's much more well received within the investing world, meaning being able to reach a lot more people with something very basic or the personal success, let's say, of having developed a strategy that really does well, but it's not for a podcast, let's say.
Rafael:	**01:44:33.49**	What a good question. Well, I'll jump in. Okay? I would say what fulfills me on a personal level is having sat down and understood how the financial markets work, what works for me, end up translating it into a strategy, to end up taking it to the market and to see that there are people who jump on the bandwagon. That has been very, very, very gratifying for me. Understanding also that in the end, as it is your own way of how you have understood it and they way you have come up with your solution. In my case, I always assumed that it was going to be a niche-specific thing, because you are doing some things that are a little different, right? Rey del Patrimonio is not crazy either, but it's not common. And there are some things that I say that I need to explain like four times and some people say "bah, you're making it too complicated. But then there are people who read what you write and ask you questions and try to understand and you've resonated with them and they have a similar way of understanding things so they jump on the bandwagon. Well, that has been incredible for me. In fact I did not expect at all that in two years I could be working on this full time. That has been a great satisfaction for me. And in the end, apart from managers or portfolio managers, I think you also need to be an "entrepreneur" and you have to see what the market is demanding. And I do think,

perhaps a bit romantically, that it makes sense for you to offer the market things that it demands that at the same time make sense with your way of understanding things. So I wouldn't launch a stock picking fund, for example, because that's not what I believe in. I think it would not make sense, but for example, the *permanent portfolio*, I thought, "hey, this is really the foundation of everything I have done" because I started investing like this and this is something that... it has become a little more popular this year in Spain, but the reality is, most people still don't know what it is. But that may be one thing that a lot more people could adopt. And I think you have to do a combination of the two things in some way. I mean, you have to also do what you believe in and then also offer something that people can understand and maybe leverage. I think a lot of people are going to get into the permanent portfolio funds and end up managing their own permanent portfolio. And then I think a lot of people are going to go into the permanent portfolio and say "okay, now I understand structural diversification". And structural diversification is one thing that once you understand it, you will always understand it. I mean, once you see it a certain way, the whole world will look a certain way. And that will lead them to other stuff. Maybe they will go to Rich Parenti because they say "well, instead of the same amount of capital, I am going to put the same amount of risk". And that can open up your mind.

Ignacio: **01:47:44.02** Red pill and blue pill...

Rafael: **01:47:44.70** Yes, yes, totally. I think once you understand it, you can't go back anymore. I don't know if it answers the question or I just rant about other stuff.

Rodrigo: **01:47:53.67** Something else entirely. A rant...

Rafael: **01:47:56.43** Perfect.

Ignacio: **01:47:59.13** Look, my opinion on this is that for me it has been something very personal. I always wanted to do what's most optimal for my clients and we don't sell until we have talked and educated. So it is very difficult to sell what we do, but we can educate and what ends up happening, what has been happening in our time is that we have very simple concepts that should be very simple and we spend 80% of our time talking about structural diversification and risk parity to educate people. But we put 90%-- because that's not very difficult. It's already done. It's already programmed. It's programmed for ten years and the returns have been exactly what we expect. And then we have the alpha part, the part that is super difficult, super interesting, super complex. I mean, the meetings with our quantitative team are just... I've written a formula that defines all the different. I did 20 pages of testing and this is the formula of how momentum works. So, it is very complicated and very interesting and we spend hours talking about it.

Ignacio: **01:49:08.03** For me, it's very personal. And so, that's how I created the business. So you can do both. I think a lot of what's happening now is people getting into the risk parity part. But like you said, when they take the pill, they start wanting more diversification, "I want more diversification. What else can I do?" Well, you can do tilts, "Okay, I did tilts. Now what can I do?" With a little bit of leverage. "And then after the leverage?" Well, you can do long/short, "and after long/short?" How you do the long/shorts and then long volatility.

Well, now you can do that and... for me it's just finding your tribe. And a lot of people will find their tribe little by little and they're going to expand their understanding of what their tribe is the more they're educated. So I've never wanted to create a product for the masses.

Ignacio: **01:50:09.40** That's being done by the banks for 0.2%. You need to be handling billions of dollars to be able to do a good business. We are giving high quality products that are difficult, but the reach won't be huge. It's always going to be an interesting group of people like you, where I can spend my life having fun, having fun, knowing that I'm doing the best I can do and attracting people that are super smart and that I can have fun day in and day out talking about difficult topics. Unfortunately I'm selfish.

Rafael: **01:50:51.92** When he asked me, my first thought was to say designing systems which is something that you put your time, your effort, readings papers that no one would read but you study them, and read them happily because it's what you like. But it is true that, or at least what I've felt... In Spain we already assume that we are not going to have pensions, right? So the fact of getting more and more people around you who have no interest in investments, assume that and start to invest systematically in index funds. Start saving and start building wealth little by little with diversification, even if it's not too structural at the moment, that in itself is a very rewarding success, frankly, and it's like a gateway, without that, you are not going to get the rest.

Rafael: **01:51:40.25** In Spain there are like two fields in which people entered investment outside the bank, which has been, I believe, the school of value investors, in this case discretionary investors, that is, not the 'value factor' but the 'value investor', let's say the value investor from Paramés school type in Spain and so on. And the other has been the school of Bogle. So in Spain it's very funny because there are like two, two sides of people that have come out of the world of banking, bad, expensive, mediocre, expensive products and so on. And we are completely different, but we are in the same industry, yet we still are a minority. I don't know how in Canada, in the United States... I think that here we idealize a little bit.

Ignacio: **01:52:31.21** In the United States, it is improving, in Canada they are just realizing it, but that is the good thing. We are at the beginning of something very big and I believe that, as you said and, the moment you realize the power of structural diversification and how little power you have to try to predict what is going to happen 12 months from now. The moment you realize that, you can't do anything else, you have to start with that and, I mean, it's not so complicated, it is just not usual.

Rafael: **01:53:05.15** The first steps are not usual, of course.

Ignacio: **01:53:07.89** It's a matter of teaching them. Sacrificing the sacred cows.

Rafael: **01:53:14.56** Stock for the long run.

Ignacio: **01:53:18.31** That is where we are right now and we are seeing the interest, we are seeing interest in pensions. We are talking to quite a few pensions and they are using risk parity for 5% of their portfolio and the rest is equities. Talking about equity, private equity, high yield, private high yield, BC. All their portfolio of most of these pensions in the United States continues to be 100% equity and everyone is now talking about risk parity after what's happened in March.

Ignacio: **01:53:50.83** We're getting to a point where, when the big pensions start to get into it and understand and the managers start to understand, they're going to start publishing: "I'm doing my risk parity, these are the reasons" and the rest of the world is going to listen. I think we're very close.

Rafael: **01:54:12.73** However, don't you think it has bad press now? I mean, there have been a lot of things that have been blamed on it. "The risk parities have caused the blow up..." I don't understand that very well, because when I read, I thought "What? It doesn't make sense" Why does that happen?

Ignacio: **01:54:29.77** It's because they think risk parity. We haven't talked a lot about risk parity but risk parity is the permanent portfolio, but you give more importance to the parts of your portfolio that have less volatility and less importance to the parts that have more volatility. So, I try to explain it like... A 50/50 equity and bond portfolio it's like grabbing two balls that look the same but you put them on the scale and one is made of a steel and the other one is made of wood... that's a 50% portfolio. They look like dollars, but the risk is 90% next to equity. What risk parity is trying to do is to take the steel ball and make it smaller, take the ball made of wood and make it bigger, put it in scale and you have a balance of risk. So when you have that balance, what you end up seeing is a dollar portfolio that is dominated by sovereign fixed income, at a point where people hate sovereign fixed income and think it's worthless and there's no choice but to go down because the interest rate is going to go up. And that's why I give the example that maybe, maybe that's true and that's why we have gold and commodities, but if it's not, we have the example of Germany, which has made 6% a year for the last five years, I mean, over five years. So no, you can't know that. And the amount of dollars available is very large and it looks irresponsible, but it is the most responsible thing you can do because it is balanced through its risk, and when you put on the risk parity glasses, you realize that everything is equal in the world of risk.

Ignacio: **01:56:12.53** And what risk parity does a lot and what we do as well at Investor Choice is you can have the one with no leverage, you can have the one with 200% leverage, the one with 300% leverage. And there you are increasing your risk, but diversified to a point where the tails are still small compared to equity. In other words, the negative adverse risk is less at risk parity than in equities, but now you are talking about a portfolio that has 280% in sovereign bonds. So it is crazy. What happens if what happened from 1940-1981 happens again, which was a constant fall of 60% total in real dollars for US treasuries. It fell around 60% in 40 years. Then, obviously the risk parity portfolio would have suffered terribly, right? When you include equities and you include bonds and you put it to a level of volatility equal to equities, for example, you end up outperforming equities with half of the fall during that time.

Ignacio:	**01:57:17.68**	So, yes the bonds were bad for you, but not enough to determine that it's bad for your portfolio. Four bad decades for bonds and some tremendously positive times for equities and commodities, use a little bit of leverage and you do better.
Ignacio:	**01:57:39.83**	That's the hate right now.
Rafael:	**01:57:43.51**	I know I said that was the last question but sorry. Simply because there's another question that excites me. Have you had an experience where you saw all the assets in a permanent portfolio or risk parity correlated?
Ignacio:	**01:58:02.61**	Yes, yes, we have talked about this.
Rafael:	**01:58:04.54**	Yes, I believe we have discussed this.
Ignacio:	**01:58:06.29**	In October, 2008.
Rafael:	**01:58:11.08**	But not all the assets correlated...
Rafael:	**01:58:12.90**	Yes, they correlate to one and everything falls at the same time. That has happened.
Ignacio:	**01:58:17.45**	The illiquidity issue that we were talking about. When the world-- at the beginning of the fall, you see that gold goes up, bonds go up, equities go down, commodities go down. But your risk parity portfolio during that time, I mean from February 28th to March 18th, it was quiet, nothing happened, and then there came a point where there was so many margin calls. So many people needed liquidity to be able to cover their leverage, to be able to cover their accounts... that you start selling the things that have liquidity and the things that have liquidity are generally the ones that have gone up recently. Then at that moment is when everything breaks down and the federal government comes in to pump money. So in those 3-4 days that always happen after a crisis, that's when the only thing that can make money, is either shorting or long volatility, tail protection. And that's why we talk about during that very small timeframe it's worth having a little bit of tail protection if you can get it.
Rafael:	**01:59:26.44**	Yes, what Browne was saying is that... those recessions, understood as lack of liquidity, are also somehow self-limiting, because there comes a time when there is no liquidity, people get used to the new level of liquidity, they understand that this is the normal-- this if it gets stuck, not a crash effect that we talked about-- then people start trading again and it ends up working again. Then you only have two options. Either hold on tight or you have what Rodrigo said. But of course, that stuff happens. There is no other alternative. That is why the conservative version is to have cash. When you don't have cash, you have to hold on.
Ignacio:	**02:00:07.24**	Of course, that is the advantage of having cash, which is also an asset. It is an active bet, as we said before, because it is what allows you to take advantage of the opportunity at that moment. The problem at that time. I remember that in 2008, apart from the fact that I didn't have a penny at that time. I saw opportunities, I'd think "this is very cheap, this is

very cheap" "That apartment over there, these apartments here, this is worth more" But what I didn't have was the money to take advantage of the opportunities. So that's the other option, to have cash.

Ignacio: **02:00:37.91** Perfect, I don't know if you want to say something else. We've already surpassed the 2-hour mark. Any final thoughts or advice?

Ignacio: **02:00:45.96** I have a question for Rodrigo if he has time. Can I shoot?

Rafael: **02:00:55.44** I do not know if I go too technical, but the other day I asked you too, but I want to give it another twist. I had always understood risk parity as... I mean, you explained the concept perfectly, I think we can understand it... but it always seemed to me very difficult to implement and when I've seen how risk parity is implemented... like: we take the historical volatility of the asset and we weight it based on the historical volatility of the asset. But I thought "but the historical volatility of the asset doesn't really tell me much about the future volatility of the asset". As well as, for example, with a trend-following strategy I do think it's pretty clear that the historical behavior of the asset tells you quite a bit about the short-term behavior. So, of course, when I see a lot of implementations that I think you call 'naïve' or 'naïve risk parity' I understood the concept but I always dismissed it because I saw it as complicated to execute in a way that makes sense.

Rafael: **02:01:55.18** So I don't know if you can elaborate a little bit on how you do it. I don't know if you need to go into the whole machine learning part, but what is the idea?

Rafael: **02:02:16.34** Have you lost us Rodrigo?

Rodrigo: **02:02:19.29** Can you hear me?

Rafael: **02:02:21.57** Yes, yes, I can hear you.

Ignacio: **02:02:25.63** Can you hear me? I don't hear anything.

Rafael: **02:02:26.91** Now we can.

Ignacio: **02:02:29.40** Just a moment.