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## EM FX:

1. pricing is just the curve (forward market point). Adjusted by volatility (assuming 0.2 sharpe)

2. current account surplus (CLP,COP...)

3. taylor rule based: growth pressure, inflation pressure --> pressure on central bank intervention

4. hedging flows: long-term bond (UST 10 year), and equities

5. capital flows (high frequency portfolio flows). Rationale: it takes time to balance, but will reach limit at some point

6. trade surplus: supply and demand, commodity prices, oil prices

7. valuation: part of the supply and demand, but very slow moving

8. Balassa-samuelson effect: in the long term, fast growing countries should appreciate more, also very slow moving.

9. central bank may have to fight against appreciation through

10. mean reversion strategy

11. short GBP, it has too little carry, and needs to fight against large current account deficit.

12. some people just don't have to hedge their income, they want to keep their income as foreign currency.

13. all translated into the pct of gdp term

14. TIC flow? Second order derivative: it you want to know where the dollar is at, just look at the tic flow!

16 FT said we should have a very core inflation measure.

International trade and dollar borrowing?

Database management

Equity strategy:

equity is just compete with cash and bond yield.

z score of changes in bond

z score of changes in equity

European banks just hold a lot of bond

## Rates Model Script:

the model starts with the economic conditions. This by itself should tell the central bank if it should be easing or tightening policies. Forget about anything else. They don't care about what's priced in the world. They just want to know the economic variables that makes sense that they should be easing or cutting rates.

What are the things that matter? First start with the **economic levels of activity**. **This tells the central banker how tight the economy is**. In general, how tight the capacity is. That's an concept that you can't observe directly. It's an abstraction. There are certain amount of output in the economy that the inflation should not be rising or falling. In general the central banker run policy that to make sure you sit that neutral level for a while. When the growth is above potential that means the capacity is tightening. You're eating through slack. The central bank, their immediate goal is to make sure that the capacity is neutral. So your level of output is equal to a reasonable trend level of output. you have a potential growth rate of the economy, let's say it's 2%. You have an actual rate you observe. When growth rate is above potential, the trend growth will rise. The good thing for the central banker is this thing is here. That's the perfect situation for them. Think you're going to a rock concert. There's certain capacity in the stadium. Say you can take 100k people. If you have 50k, the price probably have to drop. This is at 120k, you have to push up the price. The capacity of the stadium change over time, there's a grow. Imagine the size of that stadium can grow every year. The number of people attending growing is like this. We estimate the trend line of the growth. We just take real GDP, and we eyeball to make sure it's reasonable. The potential growth is not really in dispute. It's not gonna really help that much. This is what every one kind of understand. The problem is that the capacity can not be directly observed. It's an abstraction. What we do is just to take a bunch of observable variables that represent this thing. And we take, essentially average them. If wage is growing faster it gives you a sense of capacity is tightening.

The next thing to think about is changes in economic condition. Technically growth minus potential should not be in levels. It represents what the change in slack is. We just bucket it here anyway to keep it simple. The next variable to look at is are they accelerating or decelerating. We created a impulsive measure of this. Citi has produced very good index that we use. The citi change index. If you take change in that, it gives you pretty good sense of what the change in growth is.

Then we've got a forward growth impulse. We started with 3, but actually 6m makes more sense, because we're talking about rates pricing over the next 2 years. 3 months create a lot of chop. The way we forward growth is just take: what are the components of GDP, we just create our forward growth pressure on these things. It's missing the fiscal impulse. Because it's something that can be done easily but take more time to do. Goldman has some estimate of it. All you want to figure out is whether government spending is going to be higher or lower in the next period. Cyclical adjusted. That's a dirty exercise. And the next key variable is gonna be export. Let's say, you have 2 exactly the same economies with same conditions, except that 1 has faster borrowing. It's not certain true that credit will lead spending. Even if you have more borrowing in 1 economy, you're going to want to tighten more than in the other 1. Because you cut the rate to raise the credit growth, if you have the credit growth, that is to say you don't have to run a easy policy.

Then I include forward inflation impulse. What are the free money thing that we know, that will drive the growth to some degree. It'll be oil in local fx terms, and how much the currency moves. We just stop over there with 2nd derivative in growth. The key is you observe these data everyday. It's daily series. The other thing that the central bank cares about, especially the US, is the global conditions. What is the financial condition impulse, globally. This should be replaced by forward growth impulse for each country. We know where the growth is changing, we know where the growth is versus potential, in the other one.

One day rate, 2 years forward, substract the essentially the cash rate. Substract a small risk premium from that. Using mean of zero. 1w swap to get as close as possible to cash rate. The market is really perfect at pricing the curve at a year ahead, or say 6m ahead. The big picture is quite good. People are very bad at pricing 2 years forward, that thing moves around a lot. 1 year forward, they're ok. 6m forward, it's just a game of what Powell is thinking. That's what everyone is very tight on. That's why we want to use 2 years forward. Looked at historically, and plug in a number. What's the trail in vol, multiply by the contract by 0.2.

## Market talk 20191222

Any market concern?

I mean it's gonna be interesting coz the growth is gonna be stablized in a lot of places. But you gonna get more globally push to do more fiscal stimulus. I actually don't think bond is going to be very attractive now. There's not really... The equity is getting more stable. The promise of fiscal policy is enough for people to buy more equities even it's not flowing through immediately. That you know that the government is going to do more fiscal stimulus that's fine for equity investor. So equity market is probably gonna be reasonably strong. If they're strong, that's gonna be more supportive for growth and more supportive for earnings. That's going to carry on for a little bit.

In my opinion the 10 year, when it's rally it's risk off right, it's just the mechanical reaction that people have. I can understand the central bank could cut policy if equity drop. But it's not really that 10 year really help you that much if you get a risk off if the curve is this flat. I don't think the bond are that attractive in general. And the breakeven is really low so I think that needs to be re-priced higher.

If the growth picks up, issuance might pick up globally too. Corporate bond issuance might pick up. So that get compression in the long end as well. I think dollar will probably sell off is equities go up, but for me that creates the opportunity for the dollar to rally again. dollar sells-off, equity goes up, that's gonna be supportive for the US growth. That means that price-in the US curve a little bit, and I think that starts to pinch places that have very low interest rate. I think especially if you're oil importers you're going to get squeeze a little bit this year.

Brazil: I think Brazil if the growth picks up enough, probably get some equity inflows, and you're going to get some FDI. And people might want to represent the strong equity and weak dollar and Brazil is the story that people will buy. It might be an Okay currency, but I'm not in love with it. You're not get paid very much, and their deficits opening up a little bit. If their growth start to pick up, you get some interesting things too. Their inflow goes up, and import start to pick up too. So that deficit widens out a little bit.

The curve is steep still, discounts a lot. People are talking about DI(local interest rate market) selling off.

Mexico is still fine, but it's at the bottom of the range. Chile is gonna be a big trade again. Columbia is getting support from oil now, but they're still in trouble. It could be the year where Hungary hike interest rates.

The equity is still very cheap compare with the yield.

## Market talk about Mexico 20191227

This is the 1 year swap. Just to give you an idea what the short term interest rate looks like. They're running the tightest policy in the world, very aggressively. They hiked the interest rate from 3% to 8.5%. They wanted to stablize the currency. That's what they want. This is all the response they have. And so their economy is very weak now. But the bond price more hikes up here. It's crazy. And this was more than obvious cases that the rate was gonna rally. Because they're running very high interest rate, their economy was weak, and the currency has strong fundamental. So it's a little bit of the rates repricing, they were gonna need to cut, but also the market just wanted to buy the EM duration.

## Market talk about steepener 20191227

It's quite obvious what's going to happen next year. USD weakness, equity continues to go up, this create the opportunities of overshooting. Fed just wants to save some ammunition going forward, not hard to imagine central bank will hike in 1 year time at least once.

Market talk 20191230

In the new year the oil importers will get squeezed. I think it is kind of free money. The global market is risk on. The oil price went up, together with equities and EM currencies. People just forget about the trade deficit. They'll realize that the oil import has picked up a lot later.

## Dale 20191230

Fiscal policy: the fact that too many people are talking about it shows that it's impossible. The political environment is not like that.

Especially if EU growth recover, no chance of doing that.

Fed: the fed is following the market, it's not predicting it. They just do what is priced in the market. Equities: 20% up, they're going to take that out. Think about the fed's role, they're dealing with 2 things, one is the growth and inflation trade off, the other is the financial stability. Think about the hawks in that committee, if the stocks straightly go up, they're going to feel extremely uncomfortable. They can still hold the short term interest rate low, but they're looking for the holy grail of bearish steepening.

FT: do you think it happens through the real yield or breakeven?

It can be both. I think the world is thinking more about the nominal yield. We're living in a nominal world. The essential thing is the equilibrium nominal yield in the US economy starts to rise. There's quite high correlation between the nominal and the breakeven.

At the margin people borrow more and save less. I think what's fascinating next year is you get the fed so politicalized. So they're not gonna say anything that's particular until then. Big cycles..

The pull back can be nasty.

In Chile: FT: I'm waiting, I almost got out of it when they started to intervene. I think that's definitely gonna be the trade for 2020. I'm going to track their pace of intervention coz when they gotta to pulling back

## Market strategy 20191230

Long EURHUF, and pay HUF rates.

Reason:

The situation you lined up for: classic EM situation. If growth picks up, two legs hedged out. If HUF depreciate, the inflation picks up and central bank will have more hiking pressure, you earn on both side. If cut interest rate, EURHUF will go higher.

There short term rates are so low. The trade surplus is here. So you really don't want to take the other side of it if the sell-off starts. Maybe the central bank will do. Small places will get destroyed.

## Dale 20191230

EM has higher risk premium. In DM countries just trade whatever the monetary policy is. In EM countries people have confidence issue.

EM banking system are not functioning well. Can't recycle the current account surplus and IIP quickly, currency depreciating pressure(THB, TWD)

EM has higher risk premium, trickier thing.

EM has trend, confidence dominate cycles sometimes.

Large part of the investment just from international investors.

Risk premium move at the same time, across currencies.

## 20191231 Australia talk

In 2016 it's getting really big but the yield just didn't move. It's not costing anything. Just so interesting the signal is so strong here. After the Trump, you have the global yield steepened. The global growth was very strong, and you have the growth above potential for a while. Levels get tightened up. I guess that's because the wages getting up. Inflation was above target.

It's interesting that they just never tightened in that period. The interest rate was very high after the financial crisis. The mining went bust, they cut very aggressively. And despite everything being better, they didn't reverse it.

## 20200102 Australia

Australia is coming down. This is exactly right, you have the global risk on and all shit, and this is coming off quickly. Looking at Australia, despite all the premium and stuff, it's actually pricing in hikes over like a three year period. That's the one that makes sense the best trade right now. It's flat over a 2 year period, but actually pricing a hike over 3 year period. And they have room to cut right. This is easily 75 whatever. And Canada got the room to cut. The fact that US rates is 1.75 is hard for the fed, they don't want to cut, and they don't want to hike quickly. And the same is true for Canada. They actually have more room to cut. This makes a lot of sense.

## 20200102: FT on dollar and US bond issuance

fiscal deficit on dollar: if bond issue more, and fed don't do anything (fed need to tight since growth up): yields go up, part of bond issuance with need to be bought by foreigners. That's dollar bullish. For example: 2018 period, EMFX fall, same time yield didn't fall: because QE stopped.

If bond issue more, fed does something to offset it by more liquidity because of the income inequality and all BS... at the margin could be dollar neutral. then growth up, equity up, that could be a EM risk on.

## 20200103 Chile call

You know that Chile has a constitutional reform. The fiscal deficit is going up. I just had a call with Santandar. The only people who would buy this domestically is the pension fund and banks. And the banks are the money makers, they're quite price sensitive so they are not gonna be the first one to take the price down. So it's really the pension fund. And the amount of money coming into the pension fund each month is about 400 millions. And about 20% of that is going to bonds. And there're some other stuff like that there are some expiration that's gonna get rolled. Basically there's gonna be a gap of 2 billion dollars that's gonna be to buy that's not naturally not gonna be there. The bond will sell off until they're attractive enough. And if you look at the 5 year, they've only got the OK steep there, and you get all the extra risk there too. And the cash level of pension fund are historical low as well. And we're basically back to pre-crisis levels. It's just crazy levels.

Central bank cut interest rate?

I think no way, I think they pretend they want to cut. They don't want the market to think that they want to hike, because they really don't want to hike. There's no way that they're cutting, absolutely no way. And their currency is rallying just because they're intervene the market. And sovereign fund as well is bringing the capital back. That complicates as little bit, because the sovereign fund, they have a lot of dollars off shore. They can bring that back.

Think the way to trade it is just to fade the move, right. If you short, and the dollar move higher, and you want to take profit. Because the ?? is going to come out and wreck it. And when it falls back, you buy dollars again.

## 20200106 RV strategy talk

drawdown 2016-17

I guess it's Trump explosion in yield. I guess in that situation the RV system is not gonna working that well. Because that's such a big disturbance in the bond market. A lot is flow driven anyway. I think what this strategy would make money is after those type of situations, hopefully your outright system is catching that, and you have the big treasury market sold off, and you go and pick like Australia should not tight as much, that's non-sense. So we're thinking is there a way to moderating the signal when our outright view is very strong. Strong means that you're about to get one of those moves that's driven by US and that coz everything to move. It's too big move for countries to subtle differences between countries.

And we're gonna create a measure of the aggregation of how strong the duration position is in your outright system. For the RV system you might want to add up the absolute value of everything, how strong of net signal of everything is.

## 2020-01-08

## Corporate bond issuance

Blue is the treasury yield. The red is government plus corporate issuance. It's not perfect. Obviously it doesn't work here. Here is an extreme situation, and our indicators picked it up, and it receive rates in here, but then you have couple of periods where... So this is pre-taper tantrum, the world was terrible, corporate issuance hit the floor. And then I think treasury and corporate started to pick back up, probably responding to low yield, and then we had a shock, Bernanke just came out and say no QE, and the market just exploded. When the market move like that, it's a very supply demand driven thing right. I'm not sure what's this thing here, but you got a pop, down lower and lower, and this is Trump, this was driven by supply and demand, right, cause every single fundamental world was buying treasury, Japanese were got them up, Central banks were buying, China bought a lot. And then growth start to pick up, and when the growth picked back up, you got more issuance pick up in general, part of it was treasury, part of it was corporate. And we got massive bond sell-off in this period.

And now we're sitting here, like,... this is the 12m change in 6m issuance. I mean you have to do it in more rigorous way, like you have to do it in duration weighted. Making sure you're counting every body. I still think it's interesting.

Long-term bond model:

European... they got some pension fund here, right, they're all active bond players in this market. Go out and put pressures on yields. Part of the signal is to fade their positioning, so when they've bought a lot, you can say they can't buy them much more, and you add issuance lag corporate and treasury, and then you add in our rates signal, like if the fed's are tightening, and you want to sell bonds when: issuance are very high, and positioning is very stretched. And the yield is low relative to conditions. If that's right, you should pick up the taper tantrum. It should pick up the big rally here actually. I don't know if it picks up the Trump, the positioning it should, for sure. I wonder with our duration model. I guess we're catching it.

## 2020-01-14

## Chile telephone

And you wait for the next day and you realize no one wants to come to this thing. And that's the scenario you got, elevated credit spread, steeper yield curve. You got equity market sucks. Jump on a short rate like 100 bps right. You thought he was gonna lie about something so that he got stability.

Euro growth (TJ)

FT and DT

I read the JPM report said that

Reviewing question:

1. What can you do to build the strategy quickly?

Firstly we have already got the right template and methodology. This will tell us very quickly what matters and what is not for each country. Especially the visualization tool I have can help me very quickly understand what we need to add into the strategy.

After having the template we just need to plug in the economic indicators and make sure they have the sensical weight there. We have been building tools to manage each individual indicators in a tree structure which brings massive transparency to this process. Basically everything in our strategies is a tree-like structure now.

And thirdly we just need to translate these signals into trading positions. Since the strategy is relative straightforward this step is not too complicated. It's literally converting the z-score conviction into a DV01, and using the risk budgeting framework to combine into a portfolio.

After having all this we're like 70% done on the strategy. The rest is just to make sure each individual is running ok and we will continuously improve the quality.

I think with infrastructure and understanding of the strategy now we can build some good strategy per country in 3 weeks time, it might depends on other things but that's a good guess.

## 2019-01-16 model table

Decent number of changes since last week

o   **USA**: Pay signal has moderated from **.8 to .4**

  Pricing the same, but conditions dropped from a .9 to .3

         The Wage number in NFP was the driver

o   Changes dropped from 1.1 to -.5

o   Levels dropped from .8 to .3

o   **CAN:**Receive signal has increased from **-.3 to -.5**

  Pricing basically the same, but conditions dropped from -.6 to -.8

         Changes dropped from -.3 to -1

o   **GBR:**Most interesting set of changes. The rec signal has actually increased slightly from **-.6 to -.7**, despite the large rally in rates. This is because of the large drop in inflation.

  Pricing has come in from -.5 to -.8 but conditions have changed just as much from -.9 to -1.2.

         This was the result of the inflation data hitting levels and changes in a material way

o   Levels are now negative (-1), given how far inflation is below target

o   Changes dropped from -.4 to -.9

  Not sure if this is the right output given the situation but this is how the model nets out.

         Perhaps this is a good time to check that we are using the best version of core inflation (currently using standard core but there might be better (like super core) series).

## FT Chile central bank

Their goal is to keep inflation stable right, which really is the currency. And you can put the rates up or down. That thing rallied a little bit. I don't really buy that thing. Another guy said, look, you have intervention program, and it's end in march. But all the constitution stuff starts in April. And you're telling me that you're using intervention program to calm vol. That's gonna be, probably the most volatile period, that got the worst reaction, cause that's like, they're sitting their everyday, pops the reserve, pushing down, it's only that lot amount of money right. And they're going to do that for 3 months. And they're in the shit position, let it adjust first!.

Tim: what's people's reaction, are people as bearish as you? One guy say, big output gap, inflation weak, gonna cut at some point. No one expressed the view on assets directly. The central banker said that, the locals could stabilize the market right? Because they're the one that go in and buy the assets.

Everything is super privatized

FT on Chile corporate spread drives FX, original sin

...Here you borrow at US interest rate, plus the spread. I don't know if this data is correct. But I'm looking at this against their external borrowing, I think this works a lot of unhedged dollar debt... A little beta country, a little bit high domestic interest rates, and US rates, the liquidity has been very easy for the past, that has been easy. US spreads very low, US rates very low. So they basically just end up borrowing in dollars, and pulling back in their own currency right, and maybe what happens, the central bank say: Ohhh we can cut rates, and they cutting, cutting, cutting. At the same time, liquidity in the US start to tighten a little bit, fed just says, growth is fine, let's raise interest rates, and those spreads start to rise. That starts to pinch them. They have to unwind the positions, I think that's what happened in brazil partly, when they blew up in 14, 15. And the spread moves quickly, so these people to pay back the debt.

Apparently they have a lot of dollar debt, but all hedged anyway.

I don't know if JP morgan has some unrepresentative series. It's pretty expensive to borrow dollars here vs the history. And obviously when this happens this pinch everything. This is what financial conditions look like in Chile now right. They're keeping the short rate flat. The rates for local borrowing is very expensive. The equity market has dropped, right. So expensive for local to fund through equity. And the credit spread is actually very elevated as well, so it's expensive to borrow in dollars.

They make it cheap to borrow chile in cash.... you know, this thing is gonna happen.

## FT Russia telephone:

If they cut rate, is it the consumer and the household

## 20200201 Autonomous Charlene Chu

Autonomous

We’re just going to start by giving you what our view on china was on 2020 a few weeks ago before the virus really spread. It is important to have that context. So looking into 2020 clearly things are starting to get a little better. Credit impulse has bottomed. Credit growth has bottomed in 2018. We’ve been seeing credit pick up, although with very flat, slope upward compare with what we have seen in the past. We estimated the growth is still gonna under pressure in the first half. Plateau in the second half. As demand improved, and as the improve in credit started to pass through more. We were looking at a positive credit and fiscal impulse. Although weaker than last year. In last year the combined fiscal and credit impulse was 6% of GDP. We were expecting that to fall about 4%. In 2020 split about half and half in credit and fiscal. A little bit weaker than last year but positive impulse in credit means that there is more flow of credit and flow of fiscal support for the growth than the previous year. Really the support was not getting better this year.

Clearly things have changed dramatically in the last few weeks. What I really want to address today is that… I know the consensus view is very rooted in the idea that the coronavirus is very similar to SARS. China is going to experience a V-shape rebound. They get over this, that is going about 4% GDP growth in Q1 as oppose to 6% in Q4. Our view is that we’re probably looking at something that is more like a U-shape recovery. A little more prolonged as we do get that rebound. We also believe that 4% in Q1 is a real stretch. That is what might be politically acceptable for people to be saying. But the reality is we think China is really lucky to get 1% in Q1 we think a recession is very possible. And I’ll walk you through the reasons for that.

In terms of why we think it’s more likely a U-shape rather than a V-shape. Number 1 go back to 2003, China has just signed WTO in 2001. It was in the middle of this massive growth boom. We had nominal and real GDP in double digit and trending higher. We have other economic indicators very solid and positive territory we have in revenue growth for listed companies at 30% range. Everything we were quite strong back then and clearly we’re at a much weaker starting point today. Back then we have a very significant untapped capacity in exports, in property, in fixed asset investment. And all of that have been tapped out now. Over the last 17 years China clearly running up against constraints in terms of how much it can continue to grow. It’s export share relative to the rest of the world is maxed out. The economy we’re seeing the property market has booms and bust, and fixed assets investment also has its constraints. We don’t have that untapped like we have in the past. We also got a much bigger debt stock today. So China is effectively twice as indebted today as it was in the past. And very importantly, they do not have the amount of excess deposit as they did back. It’s a very big development in China over the last decade. Because today banks can not just sit on excess funds that they can lend out at any moment in the way as they used to. So this gonna make stimulus much more complicated.

The experience in 2003 was the revenue growth of listed company fell by 35% to 24% revenue growth. It took listed company about 4 quarters to make that up. It was not the V-shape recovery that people are talking about. And probably we’re looking at something similar today. It just takes longer to come out of that. Certainly GDP make these adjusting. In terms of the issue where China can grow 4% or not, our core argument really comes down to the fact that this shock is more severe today than it was back then. In recent being we have so many households, we have so many companies on locked down. And this means that this is hitting both consumption and production. In terms of the production if we think about China’s GDP by breakdown. Secondary which is mining, manufacturing, construction is around 40% of GDP. That 40% of GDP in secondary is experiencing a significant decline in capacity just because of these extra holidays. We’ve got about what is accounting for about 80% of GDP closed for extra 10days. This is on everything open on scheduled 10 Feb.  This is 12% less production days than what we would have had in Q1. Already we know we’ll got a very big hit from that. For Epicentre in Hubei, we’re expecting we’re going to have a lengthier. They loss 17% of their production and that can easily go into 20-30% if they remain lock down for a longer period. The country did open for business like yesterday but it’s not like everything is back to normal. Hubei province is the key transportation hub. That’s going to have problem in supplychain also. Probably gonna see negative GDP growth, negative credit growth in Q6 of about negative 6%. That’s a huge production shock here that we did not see during SARS, that didn’t have this kind of lock down.

We’ve got 40% of GDP growing at -6%. We would have the other 60% of the economy growing at 10%. We still have people shopping online and online gaming, that type of thing. I think there’s a little more support there but I don’t think, there’s no question the consumption is getting hit here.

It is almost given here that we got a recession. I do not think that the authority is gonna publish data. But the things on the ground this is what you going to feel like and it takes some time to get out of this.

Common question we’ve been getting from people is what the government is gonna do about this. So far we haven’t got very much of a response. I know we have a lot of trickling out of various measures over the weekends but to be honest that’s was all oriented around making sure that the financial system is functioning smoothly. Making sure that we don’t have a downward spiral on the equity market. We’ve had about 2 trillion of liquidity injection in the last couple days. But we’re still talking about several hundred billion nets ultimately because we have a lot of maturities of existing funds. Not like we have net injection of 2 trillion. We have 10bps rate cut. Very important I think symbolically, but I think it’s not going to make that much of a difference. We’ve got bank told they’ve got “fair bear month??”. That will help the situation from getting worse. Certainly not going to help things from getting better. We’ve had a delay in the ALP rule in the bank where banks at the end of the year were told they’re going to deal with all of the shadow banking they have hidden off balance sheet through investment products. The government said you can keep that. But again, that going to … Ultimately I think this is a very “vigor?” package. My assumption is that they will be stepping up their measures for what they gonna do to support growth. As companies open next week so we should get some more activity. It’s gonna be like SARS, which was tax and fees cut, particularly for those industries that get hurt. We certainly expect the rate cut. China certainly got a lot of run way in terms of rate cut than the other countries. I would see we’re going to see some weakening in the RMB.

Another question is that to what extent this could trigger other problems in the economy. I think this is possible. But I think this is gonna have to be more of a prolonged here. These doesn’t necessarily to cause the destabilization of the debt issues, the property issues. But if we’re talking about something more prolonged, I think that stuff does come on the table.

## 20200205 JPM on China Virus

JPM economist:

When we look at the Asean economy, they have fairly large linkage to China through trade or through services. And the ones that have both are the Singapore, Thailand and Malaysia. Indonesia and Php a little less so. So just in terms of the arismetic hit, you would automatically get those economies, effectively line up in a little bit of Oh no. Singapore has taken a particularly large hit so the revision, this is because Singapore represent the at least within Asean a fairly large services hub. Not only business services, but also all kinds of business services like transportation hub and so forth. That’s one of the reasons we have a fairly large revisions downside to Singapore. And that really reflects the services component. Similar to Singapore, we have Thailand as well. About 12% of their GDP is derived from tourism services. This is why we’ve taken a fairly large hit to Thailand. Even assuming the supply chain is not so badly disrupted. Just to give you a sense, we have a 0.6% decline in the yoy growth. And the case in Thailand is about 0.5%. And we have Malaysia which is about 0.2%. And in Indonesia and Php not so much because of the lower linkage.

The issue to the actual policy response. So we tend to think in terms of the general mechanism. If this is a demand shock, the fiscal policy tend to be more effective, rather than monetary policy. We have about 0.5% fiscal impulse in Singapore, so we will have an extra 0.5% coming through from initial baseline. The case in Malaysia is about 0.1%. And the case of Thailand we don’t have very much.

In terms of why we don’t have much in Thailand is given they don’t given have any initial budget passed, they can’t pass any budget. And they would delay their budget.

And in terms of the monetary policy, many of these country are close to 0 rate. And the hurdle rate for them to cut is fairly high as well. Thai fits into that frame. Because they need to preserve space if they get to the effective lower bound, which we estimate is around 50bps.

## FT on the model's correlation

Adding to this, the model is designed to neutralize the implicit risk premium one should get from holding duration (in a normal situation, one has to get paid something to move away from cash and take actual market risk). The net result is to basically be long as much as one would be short, adjusting for the economic conditions. On average though, the model has been slightly longer bonds because the tepid economic conditions of the past 10 years and steep yield curves have not justified being paid often.

The correlation is between the returns experienced by trading the strategy and what one would get from just taking a long position. So if the correlation is 0 it would mean one is making money on the short side as well as the long side.

## 2019-04-10 FT on argie

**From:** Turton, Felix   
**Sent:** 10 April 2019 09:49  
**To:** Yang, Justin  
**Subject:** RE: Argie

That’s a serious return. Just need to produce 5-10% a year and you will be a really rich in a few years.

**From:** Yang, Justin   
**Sent:** 10 April 2019 09:46  
**To:** Turton, Felix  
**Subject:** RE: Argie

Ye the risk/reward sounds really attractive. 4%+ per month.

If spot might also move in the right direction it’ll be fabulous.

I heard one of the best trades in Bluecrest in 2016 was long Turkey. they up 50% that year

**From:** Turton, Felix   
**Sent:** 10 April 2019 09:35  
**To:** Yang, Justin  
**Subject:** RE: Argie

Yes True. 50% carry though!

**From:** Yang, Justin   
**Sent:** 10 April 2019 09:33  
**To:** Turton, Felix  
**Subject:** RE: Argie

Thank you! Really interesting.

I read through her piece you gave me earlier.

Think still a lot of thing can go wrong

**From:** Turton, Felix   
**Sent:** 10 April 2019 09:19  
**To:** Yang, Justin  
**Subject:** Argie

**Hi Justin,**

**Think you might find this interesting.**

Hey gents,

Great to catch up the other week.

Hope all is well with you! Finally back in NY…

There’s obviously been a lot going on and I know you care on Argie so I wanted to shoot you some full thoughts about where we stand in terms of the story there and things that are going on.

Happy to catch up over the phone to talk through the nuts and bolts if helpful…but here’s how we see the landscape in Argie now:

***The Argie Bop Adjustment and Normalisation So Far:***

* Our thoughts on Argie overall are as you may know from the work (not sure if you received our last Argie report but if not I’ll send over), that they underwent a pretty classic 1990s style BoP adjustment, which has now stabilized after substantial real cheapening of the currency and real premium came back into the rates market (both via nominal hikes and the deceleration in inflation we’ve seen as a result of the currency stabilization).
* Now, normally you’d expect this set of conditions to create a self-reinforcing virtuous cycle of recovery as currency stability creates falling inflation (as the inflation passthrough from the prior depreciation falls out), which allows for rate cuts, which allows for a growth rebound and the whole thing creates a self-reinforcing compression of risk premiums as markets price out distress.

***What Could Conceivably Screw it Up?***

* 87% of the time from this point this normalisation cycle happens and you make a lot of money in all assets (based on 25 or so historically reliable cases we have tabulated (eg excluding 1980s hyperinflations for data reliability reasons)). But obviously there are things that can screw it up. There are two things that cause problems – 1) balance sheet issues/defaults; and 2) external shocks.

* 1. ***The fallout from the balance sheet damage caused by the initial adjustment.*** Eg the depreciation/interest rate spike/economic growth problems create problems servicing pre-existing debts (even if the need for new borrowing has already been reduced to zero via the CAD adjustment).  Historically this is why we see so many IMF bailouts or sovereign defaults after these crises. But the additional problem for countries in the past has been that they haven’t had any FX assets to use to service debts, and the debts have been such short durations. When a country got cut off not only would they need to close the CAD immediately, but they’d also need to refinance their entire stock of debt over the c.3mths average maturity…which (given average sov debt levels of c.40% of GDP) is virtually impossible to do through economic contraction alone. There’s not enough import contraction that a country can physically do to be able to pay back its entire sovereign stock of external debt at that level if they can’t roll (in most cases imports aren’t even 40% of GDP, and imagine the carnage). Enter, either IMF bailout to provide bridge finance or default. MOST EMs today no longer fit this mold – eg they are net dollar creditors so this risk from “balance sheet fallout due to the increase in hard currency debt service obligations” has become sort of a non-issue.

* + - Argie importantly is different in this way from a 2015 Brazil or Russia case which was just smooth sailing after the initial shock stabilized the currency through import compression. SOVEREIGN RISK IS MATERIAL. And debt sustainability has indeed been worsened by the currency decline and growth hit. Debt levels are high and there is a large net FX mismatch. This is why even though the BoP adjustment has gone as you’d expect, local assets have rallied but the CDS / dollar spreads are still way back up at September levels. In Russia and Brazil dollar spreads rallied alongside everything else as the BoP shock subsided, because there was no prolonged material sovereign risk implication of the adjustment. That is clearly different about Argentina today.

* + - But as a mitigating factor vs. the classic 1990s style cases to which this is similar, Argentinian debt is very long term. At least, although they pretty much carbon copied all of their mistakes that they made in the 1990s one for one, they had the good sense to issue a century bond and other long term dollar debt. So the rolls are pretty small. And as we’ve covered and as you know, the IMF and their internal resources should cover them up until 2023-4.

* + - But of course we also have the election, which also raises the issue of willingness to continue servicing debts and stick to the terms of the IMF deal. And this is adding another layer of uncertainty.

**SO THE MAIN RISK IN THIS BUCKET IS REALLY POLITICAL. WE HAVE A WINDOW OF OPPORTUNITY HERE FOR THE ADJUSTMENT TO CREATE INFLATION DECLINES AND GROWTH IMPROVEMENTS AND FOR THAT TO SUPPORT MACRI GOING INTO THE POLLS SO THAT HE CAN WIN AND CONTINUE TO ADHERE TO THE IMF PLAN, WHICH IF THAT HAPPENS WE’RE CONFIDENT WILL BE ENOUGH. RECENT WEAKNESS AND INFLATION INDEXATION ISSUES (MORE BELOW) ARE EATING INTO THIS WINDOW WHICH IS WHY I THINK THE CONCERNS ON SOVEREIGN RISK ARE SO STICKY. WE’D IDEALLY BE ABLE TO SEE (AND STILL EXPECT TO SEE) DECLINING INFLATION AND POSITVE TOTAL CURRENCY RETURNS GOING INTO THE ELECTIONS, AND THE EARLIER THE BETTER HIS CHANCES OF WINNING. SO EVEN THOUGH WE CAN SAY (AND BELIEVE) THAT THE INFLATION ISSUE IS TRANSITORY, THE POINT IS OK, BUT IT’S STILL POTENTIALLY COSTLY TO HAVE HAD THIS BRIEF INTERRUPTION IN DISINFLATION AT A TIME WHEN WE WANT MOMENTUM TO BE GATHERING GOING INTO THE ELECTIONS.**

* 1. ***The second thing that can screw it up is another blow to the BoP somehow:***So your BoP is just really three components. Your current account, inflows = what foreigners are doing (are they lending to you or not), and outflows = what your own population are doing (are they fleeing the currency/investing a lot in foreign assets or not).

* + - ***Current Account:*** In Argie’s case the current account continues to improve apace…some minor wiggles around the harvest and such but basically the trend is for improvement.

* + - ***Foreign Capital Inflows:***The only foreign inflows that are materially supporting things at the moment are the inflows from the IMF. We know basically what’s happening there. So the main thing is if the CAD gets towards balance quickly as it is doing, and the IMF money continues to plug the gaps in the meantime, any additional foreign inflows are putting foreign investment into a country with little incremental net need for it and are supportive.
    - There’s of course external shock risk – eg a global crisis/credit contraction or some such, which would push foreigners into outright contraction and create an added drag.

**GIVEN THAT WE ARE BEARISH ON RISK ASSETS AND THE GLOBAL CYCLE IN GENERAL (AND EXPECT SUBSTANTIAL EM OUTPERFORMANCE IN THE CONTEXT OF A DM-CENTERED RECESSION), A BIG GLOBAL RISK-OFF EVENT COULD ALSO RISK EATING INTO THIS WINDOW OF TIME BEFORE THE ELECTION. THAT IS PROBABLY OUR SINGLE BIGGEST FEAR WITH THE ARGIE TRADE, PARTICULARLY SINCE IT’S DM INVESTORS WHO DISPROPORTIONATELY HOLD ARGIE DOLLAR DEBT.**

* + - ***Domestic Capital Outflows:***But aside from the external shock risk, as we see it, the main risk in this second bucket (as folks rightly care about and are focused on) is the capital flight dynamic (eg domestic residents moving into FX assets either on or offshore.

**BUT DESPITE ALL THE MARKET FOCUS ON THIS, DO WE BELIEVE THAT CAPITAL FLIGHT IS A MAJOR RISK? THE DATA SAYS NO.**

* + - DESPITE ALL THE DISCUSSION OF DEPOSIT RATES BEING LOWER THAN LELIQ, THE BCRA TRYING TO GET THE BANKS TO HIKE DEPOSIT RATES, DEPOSITORS NOT BEING INCENTIVISED TO STAY IN PESOS ETC…CAPITAL FLIGHT IS NOT ACCELERATING AND REMAINS LOW. Deposit dollarization a la Turkey is not a material risk in Argie for reasons we go into below.

* + - The chart on the left below shows you that the monthly annualised pace of dollar buying by Argentinians has already gone from around $55bn a year to around $10bn a year. This reduction is a BoP adjustment of about 5.5% of GDP! It’s been almost as important as the CAD adjustment. Adding them together, the BoP adjustment achieved via reducing the current account deficit (eg domestic net purchases of foreign goods) and the capital outflows (eg domestic net purchases of foreign assets) has been a massive 11-12% of GDP.

* + - To the interplay with capital flight and inflation expectations, my point there would be that inflation expectations are massively lagging. They just follow actual inflation up and down as the chart below shows. They are not the horse but the buggy as it were. So I’m more interested in the decline in inflation itself. You can see that decline in the light blue line on the right hand chart (this is 3m annualised sadj CPI to give the timeliest reads). That decline is pretty clearly established (which makes sense entirely given the currency has basically gone from falling fast to being stable by and large since September, albeit with large returns for investors via carry. I will come back to inflation in a bit.

* + - Couple other quick points on this. Argentinians can either buy FX onshore (FX deposits, dollar Letes and other savings products) OR they can move dollars offshore straight into an account in London etc. Mostly the latter is what they do.  As an interesting contrast with Turkey, the domestic banking system is just NOT BIG ENOUGH to create a massive currency pressure in the way it deposit dollarization conceivably could in Turkey. Like literally, bank deposits in total are 17% of GDP, vs. 95% or so for Turkey. FX bank deposits are 7% of GDP in Argie vs. 40% in Turkey. That means that let’s say all deposits in both countries switch into dollars, in this extreme outcome, the maximum pressure for Argie would be about 12% of GDP total, whereas for Turkey it’s more like 55%. So just to keep in mind that the banking system is not really the issue here….all this chat about bank deposits and badlar and everything else….it’s just small beans.

* + - One other difference vs. Turkey – unlike in Turkey where locals actually move back into lira after lira weakness (eg deposit moves are sort of ‘Contrarian’ to the currency’s trailing performance, Argie follows the more usual classic script. When the currency sells off, locals flee the peso. You can see that in the chart bottom right. FX deposits rise after big devals. But again, not much sign of that at all this time…this tells me local deposit rates are just fine in terms of retaining peso depositors, because in total return terms the currency has been doing fine since September.

* + - Valuation adjusted, peso deposits are taking share away from FX deposits, and you can see in the chart to the right that LCY/peso deposit inflows are material. This chart also again highlights how small dollar deposit flows actually are in Argie. We believe LCY deposit flows are strong (unusual with such weak economy and loanbook contraction which mechanically shrinks deposits as well) BECAUSE domestics are favouring reallocation towards peso assets (both by switching FX deposits and bringing back some of the dollars they have squirreled away offshore over the years).

* + - Last thing to mention here is that the repatriation of export earnings into pesos has been below average in the early months this year. If exporters keep their money in dollars, this effectively means the current account (if you tried to strip it down to just local currency flows rather than flows of all currencies, which is what a country’s BoP actually is), would be worse  than it appears.

* + - We have always interpreted export conversion as a capital decision not a current account issue. Eg if an exporter decides not to bring back his money into peso, he’s making an active choice to take a long FX position, so conceptually it’s more like capital flight (and that’s actually how it shows up) rather than a current account issue per se. It’s not clear why the remittance of Export proceeds has been slower to get going in this harvest. But the numbers above include all aspects of capital flight so just to make the point that the exporter issue is already included in these figures. We are tracking this, but the deviation vs. normal conversion isn’t large enough to warrant worrying much about. It would just be nice if they’d accelerate to their normal pace of peso purchases at this particular point in time!

***Ok So That’s the Framework, But What Have been the Problems So Far?***

In terms of recent weakness, basically that they’ve had a couple problems, and we don’t see any signs that “low” deposit rates (relative to LELIQ), or capital flight, or inflation expectations driving domestics out of the currency or any of that sort of thing is the main issue. The main issue from a flows perspective appears to be foreigners selling positions and reserve intervention by the central bank (which has now stopped). Why?

* The inflation deceleration has been material as above, but has lagged the disinflation trajectory implied by the currency pass-through, because of such prevalent indexation in Argentina. In particular, the regulatory price hikes being put through in the first four months of this year are temporarily stalling the disinflation. Energy, utility and other regulated prices are indexed to prior year inflation, and they are increasing these prices in four steps from Jan to April this year. This has interrupted the disinflation process, but has not materially accelerated inflation (see chart above….small tick up in the 3m annualised). And in any event we know this is temporary because of the regulated price increases. The underlying core inflation trajectory continues to fall. But as we mentioned above, this is still unwanted because it’s eating into our time for things to be getting better so Macri can emerge victorious in his battle against the Peronists.

* At the same time, the BCRA went from selling reserves last year, to accumulating reserves pretty materially in Jan and then even faster in Feb. Eg when the currency fell outside the strong side of the non-intervention band, they started to buy dollars and add to reserves in an unsterilized way.
* This did two things – a) it put a mechanical pressure on the currency to the tune of first 3.5% of GDP rising to 5% of GDP which is big. It’s the equivalent of say the difference between a 0 current account balance and a 5% deficit. That’s been a huge pressure. Then b) the consequence of that reserve accumulation has been that the monetary base expanded (because it was unsterilized). This mechanically pushed down interest rates by 20% in the first two months of the year.

So basically, from the foreign investor’s standpoint you have a) inflation disappointing people; b) rates falling fast at the same time; c) the currency weakening both because of the reserve accumulation and less inflows into peso because rates not as juicy/people taking profit on currency positions they built up during the rally; d) an environment of dollar strength; e) oil rally hitting terms of trade; f) political noise from the provincial elections last month, the question of who’s going to run against Macri and the various national polls noise.

So then on a going forward basis the question is are they responding as needed to keep the story of broader cyclical BoP recovery on track/try to short circuit this renewed pressure. I mostly think they are. The reserve accumulation has stopped already as the currency fell back within the band, rates are being squeezed up, they’ve floored the LELIQ rate, more LELIQ is being issued to absorb more money supply, and monetary base has been outright contracted by 8%.

         In addition they’re undertaking measures to try to force the banks to pass through LELIQ hikes more fully to bank deposit rates to attract peso depositors. That said, as above we don’t think capital flight is the incremental driver and peso deposits don’t look weak.

         Finally, albeit somewhat concerningly, the government has announced its intention to use some of the latest IMF tranche to fund peso deficit obligations. They will sell $60m a day into the market starting April 15th (an 4.2% of GDP or so annualised pace). This will support peso in the same way the BCRA’s FX purchases depressed peso, but at the expense of dollar creditworthiness, which we believe is another reason why CDS spreads are hanging out back at September highs despite the continued progress in BoP adjustment since then (I’d also bet the large dollar issuance recently in EM/frontier (inc Aramco this week) is crowding out the dollar positioning people have in Argie to some extent). That said the IMF seems cool with it which is a weird change of stance to our minds. So that’s not super sustainable, but if the calculus is that it helps us have a “successful window of opportunity” for stability and improving fundamentals as a tailwind for Macri going into the election then it makes some sense as a short term support.

Phew – sorry that was so long. Wanted to make sure I was contextualising the various issues within the framework of how to think about what matters and why and sizing them so we’re distilling what to worry about vs. what’s noise.

Best  
W

**W  H  I  T  N  E  Y     B  A  K  E  R**

F  o  u  n  d  e  r

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## FT explaining citi change index

Found some interesting data series on Friday that might be useful more broadly.

Citi produces a series of economic indices for most countries. The surprise index is the best known but they also have another index that is likely more valuable for medium term signals: The Citi Change Index.

The index is constructed in the following way:

1)      Identifies important stats for each country and assigns weights based on importance

a.       Importance is determined by the reaction of FX markets after stat releases

                                                               i.      Im not a huge fan of this but it is reasonable

2)      Takes the change in the series

a.       Defined as level today vs 1 year rolling average

                                                               i.      A local z-score approach

3)      Phases in the statistics to the composite index based on a geometric decay approach

a.       The day the stat is released it has its max weight in the index, as time passes and new stats come out the weight decays until its next release.

The advantage of this kind of data is:

1)      It is extremely timely and it is updated every day.

2)      It measures changes in the data instead of consensus surprises

a.       I tend to believe that, in many situations, the surprise index is sort of a false construct because it assumes the rates market is perfectly calibrating their interest rate view to the average economist estimate of each stat, precisely when the economist build their estimates.

                                                               i.      Likely, most people only know what the economist estimates are when the stat is coming out.

b.      Central banks do not necessarily set policy around bank economist forecasts. Instead, they probably just ask the question “how does the data look?”, “is it improving?”.

To test the quality of these series I compared them to CAI, specifically the 6m Change in CAI. For all but Australia they work fairly well (best for USA):

Red is 6m Change in the Citi Index, Blue is the 6m Change in CAI:

## 2020-0125 FT AL talk

What do you think that is shake people out of the equity, in a sustainable way. There's just a reinflate, everytime there's a dip, people buy it and getting reward.

## 2020-01-22 Dale Tomas Dollar cycle fx meeting

Kick off the stuff that I sent around. So I think that there's a flaw in the frame that people's discussion of the dollar cycle in a broader picture. The long dollar cycles is much longer lasting than just the short term inventory cycles, even longer than medium term interest rate cycles. And for some reason I think it's still in an uptrend.

In terms of the structural story, if you plot fed funds against broad dollar twi, it didn't have great correlation. There are times when rates go up and dollar goes down. I think you need to be very careful when you think of the dollar in terms of the monetary policy. It's not just about what the fed is doing. I think you have long periods where money naturally flows into the US. That can offer high returns. And there're periods when the opposite happens.

If you look at the history these periods of dollar strength, taking money tends to be associates with, at the very end, large leakage in the gross external account. A rapid deterioration of the current account is all really keeping capital coming from overseas broadly for higher returning assets. And I think it does seem to be late cycle environment. And the chances are we're still in that environment. And that you can... the cyclical stories always tend to have a slight fires towards the dollar structural strength. I think we're still in that environment. There're are some cyclical stuff I've done.

I think the US market in general offers higher returns. There are more innovative company. It's the best place for all industrial revolution. I has the long period of equity market out performance. I mean there's a different way to look at this, I took the forbes top...most innovative companies, 70% are from the US. I guess it emphasizes the tech cycle. I think the stories remain that the US has a lot of cut edge technology, eventually that's gonna have some late cycle dynamics to play out. The current account deficit will widen out, the money will be sucked in. We'll approach that structural end pointing to the dollar. But we're not there yet. So that bring in the tide to rise a little bit, so to think about the cycle.

What is very clear since 2005 is that the dollar has a negative correlation with the economy cycle. When the dollar is weak, the growth has been strong. This is not perfect.. but I think what happens to be the case, over time forever, like the 90s the reverse held. So clearly this correlation is not something fixed in time. But there's, in fact, a function of the underlying economy variables. My hypothesis is that, what's really going on is post 2005, this was the period when China was the driving force of the global economy. That's the economy that expand its balance sheet. In private sector and public sector. The changes in Chinese economy, they drove the global economy, they drove the global cycle. When Chinese economy was strong, the money naturally flowed from the US to the rest of the world, and the dollar is weak. So the causality has been, this cycle is typically driven by the Chinese cycle. We have 3 of these since 2005. But if you go back to late 90s, when the last one of these late cycle slow down period, in fact as you go into 2000, the dollar was positively correlated with curve. The US was driving the global economy, the sort of cutting edge technological innovation at the time. And money flow in and the dollar went up when the growth is up.

So the key thing is that to think about what kind of cycle we're in now. And if you just focus on the Chinese growth dynamic, I think it's very difficult for the Chinese growth impulse to be the same magnitude or the size as in the previous 3. What China has been doing is leveraging balance sheet, increasing debt, it needs to have a period of rebalancing, as the US and European had in the last 15 years. No doubt there will be some... coming out of China, but that will be very muted and weak compare to previous cycles. And obviously it will be more domestically driven and less ?? to the rest of the world. So I don't think we gonna see the repeat of 2016, 17. There will be an echo, but not repeat. At the same time if you look at the US, there're some characteristics that's similar to 98,99, the potential is there to unleash. A large degree of consumer led leveraging up. The US consumers has spent 12 year pulling back, cutting back, you know the European consumer will be doing exactly the same thing. That's typically not ?? to the global economy. The US is smaller in global terms than it was before. It might some cycle hasn't kicked in yet, it's gonna be the sort of hybrid dynamic, where you gonna have a relatively weak Chinese driven cycle, and a persistent rather weak US one compare to 98,99. Overlapping those 2 cycles is going to generate what the currency environment we're in, which from the cyclical point of view is pretty ... at the moment. ...in the currency world it get to lower static, to some extent, I think that's what happening.

At the same time, the market has a real mind, that it's believing a 2006. Dejavu will all over again. You look at what's priced in for European growth convergence to the US. It's the pretty similar dramatic story is that 2017. At the market it is pretty clearly priced, to a large extent, for this rehash and re-run of China driven cycles. While I think it to be uncomfortable overlay of two different cycles. I think it is quite interesting that some times we think the correlation change. Rolling correlation of S&P and dollar has increased significantly in the last 6 months. Just as it did in the late 1990s. This is exactly what you expect to see in an US driven cycle.

And then let's talk about the rates differential and the product. The kind of killer chart of dollar bears is the dollar vs the relative rates differentials. You do get a long period of .. stays for long period. Let's think about how relevant signals derive from short term interest rate, dollar clearly driven to some extent by rates. In determining where currency got these pair. In the previous cycles, pre-global financial crisis, this rates differential, probably the real rates, drive the currency. That kind of makes sense, coz all central bank's doing is front end of the interest rate market. They'll typically follow the yield curve though. Essential follow the route of the economy. Right now we have extreme unconnected monetary policy. The forward guidance, which people believe they're going to run economy high...? Also pretty stick to the low inflation story. I would argue that these are slowly diverging to whole economy returns. So we should be very careful of using them as proxy for that. That's the way do justify the position you want to have because you want to have some.

And also in current environment where you have the 2 cycles overlapping you should expect large dispersion of currency performance.

## 2020-01-25 FT on Gold and fed

It's a bit about monetary policy, but people bought now because they're seeing where the end game is going. The logic is that we're getting a period of reflation, we've learnt last year that any type of tightening is too much. The world can't hold anything like 200 bps of tightening is too much. The global economy can't take that. What it means is that central bank has to be very careful and run very dovish policy. In the US is like that right, the conditions are saying the condition's strong, in a normal situation the fed will be thinking about hiking a little bit now, but we know that if they're doing that now, there seem to be much less room to ease. So they're running policy a lot easier than normally would. And ultimately I think that this reflation is going to kick off and wearing off. And there's gonna be way fewer sources of stimulus. Like the rates can't go down much lower, the a lot of other secular, housing prices and stuff like that can't rise much more. I think ultimately we're going to monetize a lot of debt, right, the government is going to issue more, and that's gonna be absorbed by the central bank liquidity. There's gonna be a bunch of money to push into the assets. Gold is the one.

And if things go really bad, the central bank is going to cut a lot. They would devalue the dollar, so gold is the assets that pick that up. So people had in the back of their mind, they kind of know where it going, so that's why it's got pushed up a lot now. As you get more stimulus, as you got more liquidity, you gotta get more of buying pressure in this thing. In a ?? world, equity would go up, rates would be stable, dollar weakening, that's gonna be fine for gold. It's sort of risk off assets, because on the day when equity drops, all the money would go and buy gold, right. That's on a day to day, but in the background, there's a supply and demand balance. And this is driven probably by how much liquidity there is. Just like if there's a lot of money slashing around, yields are very low, there's not really a lot of places to go to absorb that money, it's gonna push into assets like gold, which is not a big asset.

India's reserves, check this out. These motherfuckers buy 8 billion dollars of gold. In the last year and a half.

## FT explain model

Adding to this, the model is designed to neutralize the implicit risk premium one should get from holding duration (in a normal situation, one has to get paid something to move away from cash and take actual market risk). The net result is to basically be long as much as one would be short, adjusting for the economic conditions. On average though, the model has been slightly longer bonds because the tepid economic conditions of the past 10 years and steep yield curves have not justified being paid often.

The correlation is between the returns experienced by trading the strategy and what one would get from just taking a long position. So if the correlation is 0 it would mean one is making money on the short side as well as the long side.

## 20200129 Thomas Jelf on Fed

1.       The most/only significant development was the change to the inflation language in the statement and Powell’s explanation of that change. The Fed leadership is clearly keen on market participants knowing that the current pace of inflation is not satisfactory. While that lack of satisfaction is not enough for a policy adjustment at this juncture it suggests that the hurdle for further accommodation is low.

2.       There was no talk about yield curve control. The WSJ reporter who wrote about it last weekend, Timiraos, did not ask about it. That’s surprising to me, and suggests that the story may not have been a leak after all. The Fed leadership probably considers YCC a viable future tool, but they didn’t want to press it today.

3.       The balance sheet discussion was largely as expected I think. The Fed and (some) market participants continue to disagree if it is QE or not. Powell did a good job in not getting goaded by journalists questions on this.

4.       The Chair said that the Fed is ‘very  carefully monitoring’ the coronavirus evolution, but also followed up by flagging signs of improving global growth. Ergo, this is not a driver of policy.

So where are we left? Fed on hold with an asymmetric outlook (hikes out of the question, while scenarios can develop where they cut). Same as before, with the added information that the Fed felt it necessary to repeat the message.

## 2020-02-02 Poland economist from Santandar

Tim: Inflation is sort of wearing off and coming back to flat or so. How do you see the progression of the inflation and profile look. It is slowing down a little bit, how do you see that playing out. Have you seen any of the scholl?? impacts in the data about still to come. Monetary policy still a little bit boring to talk about.

Economist: ... oil price, taxes, government...

FT: how does the housing market look?

Economist A: it's hot; but I'm not sure it's overly overheated. There're several reasons. First of all, there is structural reasons. Poland still has structural house demand. If you look at the house quality, there're still a lot of households who need to buy new houses. That justified the demand, while catching up the living standard of the western more developed world. But on top of that you have some symptoms of overheating. Because on top of the justified demand, you also have the speculative demand. The interest rate in real terms is one of the lowest negative in the world. In Poland, people are seeking for alternatives for their deposit, which is losing money. So they're investing a lot of money in the residential market, just as an alternative investment. And credit growth is decent, 10%. Some people say they have the first sign of bubble building.

FT: is there anything choke it off, like central bank tightening? Is there anything that chokes off the housing price growth, or maybe credit growth at this pace? Housing price get too expensive and no one wants to buy any more or people just say this is a good opportunity to buy house and the price is just going up.

Trader: still a long way. To say it's over priced. Still a long way.

Economist: speculative demand... because people who hold the loan are mostly for their own living. But speculative demand is mostly cash.

FT: what rate do people borrow at there?

Trader: libor + 120

FT: it's floating so it does matter if it is tightening. How sensitive it is, like if you see 50bps would it do anything?

Trader: I mean... does it make sense to hike 50? I don't believe in the delivery. I do believe in the play, the market perception of the currenct play. If it is materialised, it is very easy to say Poland is falling into the Hungarian way, it's behind the curve, the curve should be much steeper. We should build some rate hike. I think it could happen. I'm not saying this is my base scenario. Coz we are ... global flow, and the global flow transact last year, ... But interesting that the spike in CPI was so soon and not so expected. So I'm waiting the Jan CPI projection. And also I'm gonna play the global flow. Because it's the flow driven market right now. But I'm gonna keep an eye on the CPI theme. Because this is the only chance that international money start to look at the local factors again.

FT: I'm just trying to get a sense of risk premium. Coz we're in the situation where everything looks reasonable, but you do get a little bit of reheating. Once you're in that world, you're like, ok, what quantity of hikes would be necessary to cut the retail ... If you're in the previous world, you are like 25 bps could be a good trade.

Trader: but now the real rate is -2.5%. So if you want to stop it, you would need to hike the rates like what. It does matter if it is -2.5%. But does it matter if it is -1.5%.

FT: what would the bond sell off look like. Who would be driving the sell off.

Trader: market liquidity is poor. Last year it was one way flow. So it was quite easy. In July, I said it's not a problem that the supply is scarce. The problem is the sell off, because no one is to take it from you. But thankfully the offshore holding has shrank very much, to 23%, 2 years ago was 40. They're all accumulated by local ALS. Because of the tax exemption, they accumulate more and more. And those are banking portfolios, and those portfolios have not been marked to market. So overall, the banking sector risk grows with the holdings, because if there's sell off their assets stuck, they have no substitutes, they have substitution concern. And the valuation, it's mark to capital, but at some point, it's mark to market.

It is interesting because when there's a sell-off, there's gonna be a gap, a gap and a gap. For the banks their balance sheets are full, the pension funds are not there any more. The new pension reform is not as supportive for the bonds as the old one. So this is the question, who's gonna buy it?

But on the other hand, even if the borrow is bigger, it is small, 160bn. Plus they sell a lot in retail bond. They sell every month of 2 billion retail bond. Which is quite new to the market. The bid coverage is still around 2 at every auction. So there are no sense of panic. But I would look at the CPI, cause this could be a game changer.

FX seems to be boring still. Flow wise: Corporate flow, both sides seem to be bought. 420 we see importers, and 430 we see a lot of exporters. Central bank much easier to control. So it's gonna still be boring. Without currency crisis, we should not expect rates crisis and so on. It still need couple of months to build the story on it or to kill it. OK?

FT: I was paying 10s. It just seems like, you got really tight capacity, you just need the growth to pick up a little bit to continue the pick up on inflation. And the bond market curve is super flat. And so you're not getting anything to hold 10s, so the world get changed a little bit, and you get the sell off. The thing I don't really understand is who would the buyers and sellers are. I may want to follow with you on that. For me it's just look like the banks are taking off the foreigners so they're taking a lot. Seems like that situation might be a little saturated. I think like, a foreigner, why would you hold 10s, being outside a bond index? What's attracting them? I would just hold the front end if I were them. You're taking the duration risk and the currency as well.

I imagine you can model how these players behave right, it's probably all pretty logical, like what drives the banks to buy bond, it's probably have something to do with how many loans they have, how many deposits are coming in. And then it's like the ALN(pension??) guys, when they buy, cash flow coming in each period.

Trader: in poland, the main incentive is the tax exemption. The polish equity market is quite dead.

## 2020-2-3 Terms of trade FT

I think you can get the series from Bloomberg. Like look, they import and export from each country. Make it simple, like make it buckets. There's energy, you can probably proxy that with oil. So you just find out what the dollar value is, right. You assume the production level is abstract, it's constant. You find the dollar value of that. You find the dollar value of oil and there's hard commodities. There's gold, and maybe there's food stuff like that. You just find the daily time series, that gives you a proxy of that thing.

## 2020-2-18 study notes on india

### India bond market (2020-2-18)

o        India govt presented its budget on Feb 1

o   Weak revenue

o   Economic slow down

o   Fiscal deficit revised higher, 3.8% GDP

  Market worried that higher deficit means higher market borrowing to fund the fiscal deficit

  10 year up 20-30 bps after the tax cut announcement, reflecting term-premium risk

o   Intends to pursue down a path of fiscal consolidation

o   Delay to achieve 3% target, low conviction to achieve the target

o   Attract risk capital. Pave way for inclusion in foreign bond indices

o   Budget largely neutral for growth and inflation

o   Budget should be neutral to slightly positive for bonds, with some relief stemming from the absence of additional borrowing in FY20 and gross issuance largely in line with our forecasts

o   Fiscal consolidation positive for INR?

  +ve:

         Local govt bond market risk premium to be reduced; positive on capital inflows.

         Local corporate borrowing costs lower; positive on capital inflows.

         Inflation pressure stabilizing; positive on capital inflows

         trade balance to be improved; positive on current account.

  -ve:

         Tax spike, growth slows down; negative on capital flows

         Govt cut spending, negative on growth and capital flows

  On balance, in the short term the investors just return to the bond market and that means capital inflows.

o        India experienced bond outflow

o        Budget avoiding any large fiscal expansion

o        Investor relieved, returning back to the government bond market

o        Focusing on the bond index inclusion

### Impact of Coronavirus 2020-2-19

Supply chain analyst

o 6th largest city in China

o 12m population of Wuhan

o Transportation hub

o 10% of railway volume

o Hyundai hit most

o Escalate so that people stay at home

o Feb 20th, no open of school and companies

o Beijing, Shanghai going back to work

o Things are improving outside of Hubei

o Supply chain disruption

o   Apple: large impact than others, large amount of labour assembling

  Open, but not able to find enough workers

  Wuhan not reopen Feb 29

  No factories in Wuhan opening soon

o   **Number of people back to Shenzhen: 50%**

o   **Factory reopen rate 32%**

o   **Maybe 30-50% workers back to factories**

o   **Utilisation rate could be up to 60%, workers are very willing work longer, pay can be higher over weekend**

o   **Workers quarantined at home are typically not paid at all.**

o Demand side: in Hubei province, disappear

o   Not changing consumer spending materially

o After Feb 10th, workers not getting paid if NOT open.

o If Wuhan close down, still people can go back, but through bus, not railways

o More screen time than before

## 2020-2-6 daily Market talk FT

The equity starts strong and they come off a little bit. Dollar strengthened against EM basically. And this is the combo I'm talking about. This is what I'm talking about that will play out. The financial assets are gonna be supported. And dollars, it's gonna take a lot for the dollar to sell off against EM. Like this is the day where the equities are not ridiculously strong, where you see the dollar strengthen here. You'll get all the impact like commodity price being lower, slow down in brazil.

About Russia: the inflation is coming down, only that the credit growth for household is quite high. I don't know why that is. So they're thinking.. the Russia reserve bank is going to cut once. That's what the market priced in.

Another thing, just finger in the air. We should know what the commodity impact is for all of these countries. Like oil has done something, industrial metals. Also there's a concept, of finding a time series that shows the amount of dollar deposit in the banking system. That could be proxy for how much money has come in, but not yet been converted.

## 2020-2-13 Announce bonus

I think it's appropriate to get back to him and get clarity on things. The issue on your end is that it is not immediately money generating. I think the base could be higher. If that's important to you, you should flag that to him. That's the money you're earning on the regular basis, that's the money that you save immediately. That makes you feel better about dedicating yourself in this way.

And if you're working with a wider group of people. And probably you're able to help Tim's out for what he's doing. That 10, 20k extra doesn't mean anything for the firm but that means a lot for me in the productivity.

It's important to get the beta of things that your work. Another way is that you're running a system that can run at higher scale.

## 2020-2-10 Hungary FT

Hungary rates: the liquidity has problem. There's no one wanting to bring the money onshore. Swaps get rolled. etc...

## 2020-02-18 Risk management FT, teaching Tim

So here is it. You got historical vol, your position, the notion. There's a lot of way to get the estimate vol. So I do historical and implies. This is the sterling... IT's like if you only have this 10mn dollar sterling position, what is the volatility of this book. Right. So 1 standard deviation move a year would be 90 bps. And if you have a bunch of things that are uncorrelated, or negatively correlated. And... there's another metrics call covariance. It's a thing that adds up to 100. Basically this is what percent of risk of that book is this position. It takes into account the correlation.

CLP and TRY are big positions. Even though that's not ?? it's not correlated to anything. Historically, you're really long dollars.. Oh this is really a long dollar position. So the india.. the little position of ZAR and India, they're dollar short, so they really take the risk away from the book. So if they close out, the book will go up. So the thing I'm pulling is... For the assets itself, this is the 1m,3m,1y,3y,5y... And the implied. If it doesn't have implied it has similar asset to back it out. Let's say you know what S&P implied vol is. But you don't know what NIKKEI implied vol is. Coz you know the ratio of historical vol, I pull it... So this is the volatility table. And for correlation it's the same. Just take historical vol.

It is if you take the book, and simulated that historically, what is the trailing vol of that book.

## 2020-02-18 FT Turkey

This is turkey 2 year swap. TRY liquidity just getting drained. There's no one buying this thing... I mean, they've cut a lot. They were up here. Imagine they've cut 600 bps, something like that. They've driven quite big stimulus. Their growth picked up quite a bit. And they have the political issue. I guess a normal central bank would not risk this whole thing blowing out again. They don't want to have that cause you just have to hike rates again.

It's pretty incredible, like took a while. It's gone to a local high... no all time high. You have all the stress in FX market... It didn't budge but now it will. Here people know that the US economy will basically be ok.

## 2020-02-20 FT on EM equity and bond flow

Taiwan is very related to equity flows I know. Certain countries just finance more equities than bonds. What that is related to is the average level of rates the country have. Bond flow into asian counties don't have a carry, don't really matter that much. **The Thailand thing is not real. They basically would hedge their FX exposure anyway**. Phillipines are more equities. Malaysia is more bonds. But that's all dollar debt by the way. IDR is probably more bonds, pretty much. They don't have super liquid equity market, and they have high interest rates. Korea is like, they say it's split evenly but it's really an equity story, bonds aren't correlated.

## 2020-02-20 FT on USDJPY higher

FT pulled up the chart of US 10 year and USDJPY. This is Trump... Very correlated. And then you got this.. And this thing goes here, telling you, probably that there's a lot of negative pressure (he referred to US yield dropping while USDJPY stay still, usually it should follow). I think it is just the trade is collapse. They're not exporting anything. Coz they're still importing stuff right, people gotta buying things. But the export hit the floor. There's nothing holding up there. It's falling as the same pattern as the EUR.

The problem is that US is the world central bank. And then they do that they expand their domestic economy. Probably the stock market here get over stimulated.

## 20200220 FT big macro guys

Junaid: the recession probability goes up.

FT: you have the big macro guys coming out. You've been max long equities. The logic is like, you know you're max long now. If you don't buy now, when the hell are you going to buy. The real thing is that, if you buy it now and you're going to sell it some time in the future right? If you ever want to buy equities at all, you have to do it now. So this is gonna mean that it is time that turns.

FT: Pretty inflationary right?

DT: You see it a big hit to potential growth, low growth and high prices.

FT: do you see oil to rip for some other reason? Maybe it's oil? Maybe it's quality asset?

## 20200220 FT Turkey

Coz turkey 2 year swap sold off a lot. This is a good trade. They're up here, right, and they've cut like 1600 bps? They gave a big stimulus, and their growth has picked up quite a bit. And a normal central bank would not risk this whole thing blowing up again. They don't to do that, coz they just have to hike the rates again.

## 20200221 FT market talk

I think you have your job done. Putting growth vs potential at negative 1z. That's a little aggressive. It's a weaker version of what happened yesterday. Dollar's stronger, even against Asian. Gold's dripping. I had my position earlier. Interesting question would be what will happen to poland and czech.

## 20200221 Market

Kind of falling growth but easing liquidity kind of dynamics. S&P is weakening, but you have the dollar weaken. Rates are rallying. And now it's like we're discounting that the fed is going to cut 50bps. That's gonna work. Or provide liquidity in some other way. A lot has turned. Asia has not turned probably because the growth part of that. All the pro-liquidity staff like rand and ruble. Look at the rand turns today. Little carry stuff probably get underperformed. That's gonna going on for a while. Look at try ...

## 20200225 Caxton FICC emergency meeting (policy response to the virus?)

DT: the way I'm looking at this is this becomes a pandemic around the world. And from genuine perspective, this becomes what's the relative impact story. How bad the infection gonna be, what's the direct economic impact. And obviously for the bigger economies that can be big economic impact for the rest of the world. So think about it, it's quite clear that the epidemic starts no where else but in China. It's clear to me that that's the epicentre. But the core-able is the next??, at least until winter ends. And when the China is going back to work, you'll have this little popping about around the China. I think this is a turbulant that, A, supply demand shock that could last at least until sometime, Q1 and Q2, as a result, constaint on supply, constraint on demand. In good, and in services as well, gonna be material. In terms of Chinese assets, I think quite hard to trade them. Certainly the currency and the equity markets. I think clearly they're fixed. But at some point clear to me that interest rate in China is gonna come down. Even it's 2 year swap, low levels, but they'll have to come down. In terms of the next affected places are north east asia, singapore. And in terms of those countries, there's definitely currencies plays there. In terms of korea, where the equity outflows, And the fact that external accounts not really, particularly positive leads to potential for weakness there.

Singapore is fixed to basket. In terms of direct physical trade, I think the korea seems to be more vulnerable. Moving to the services impact, particularly in China, tourists is the biggest import in the current account. Something like 2% of CHina's GDP, which is wiped out for now. And it's hard to know when it's going to come back. You didn't go to holiday when you supposed to go to holiday. This is not like durable good. This is going to be a big hit to Newzealand, Australia, Japan, these are the big tourism destination. Ultimately you'll have the currency have to adjust lower. And australia I think a little bit...?? arrive of QE. You have to assume that US and EU will have some degree of contagion. By now European is in the ??? I'm not sure in the long run the EU is that different from the US. Germany is in particular, very exposed to the indirect slow down in Europe. Maybe they have to cut rate. I think in the emerging world this becomes more facinating because they don't have the health care system to cope with this. Which makes Turkey, I think is the country, extremely expose to this, that's the country already on the motion of comple? Exchange rate collapse, running out of reserves It's bound to have the cases of this virus because there's a lot of cross border flows between northern around turkey. And suspects once it becomes clear, pressure is going to get even greater there. I think most country is able to cope, but some country is going to complete melt down. I short the emerging market where they can't cope with this.

So prior assumption in the currency market, there going to be unclear direction to dollars, some currency going up, some currency going down. I think broadly, this is a dollar positive world. Coz there's still has the high rates structure... Third waves of(8:34) ...

The bigger question is whether the health care system can cope with this. And this increase the probability that Bernie can become the president. People made the assumption about the V-shape. I think no matter it is a V-shape, people won't worry about the upbeat, but worry about the downbeat. So you can have a overshoot in the market.

AL: what do you assuming the policy response on this?

DT: The hard thing is that the US is the country with the biggest scope of rate cut. The only thing is the markit pmi,... other data isn't showing anything.

FT: The thing is more obvious that in Q1 the growth is going to be 0. The demand is gonna collapse. This is going to squeeze $Asia higher. Now for me it's like playing cash in the small market. I'm not really good. I think EUR move is going to be interesting like, it's traded really choppy for the last year and half. Too much trading partner... if collapsed vs dollar, 2-3 weeks it is flat. And that's basically telling you what's happening under the surface. You have to think, the second biggest economies in the world, the demand collapse there, and you have export to it, and the export drops, probably the biggest you've seen since the global financial crisis. So I think the shrink in demand is going to have impact on any global big exporters. People they're going to import stuff as normal, they buy oil, bmw etc like what you would normally import. That'll be the same because you don't feel the virus directly but export fall and it just hit BOP balance.

## 2020-03-03 FT on Canada not so weak

So looking at these to oil, similar to last year. They're not going to directly feel... they'll feel the US slowing down in a way. But mainly to them, it's about managing the housing market. They don't have the same obligation as US has like to protect the stock market. And the US is going to do that work for them anyway. I would think this is the case that... it's a sneaky thing but kind of isolated. And now we're pricing something pretty aggressive there. 75bs already... I doubt it. I don't think they gonna do that basically.

## 2020-03-03 FT on how to trade brazil

FT: The way you have to trade it... the thinking is that the way the world is now, it's not gonna sustainably rally. And bear in mind, it really has not, after this big correction, sustained rally. But you know now when it pulls back you can buy it. It's still the logic to use. And also they intervened here and they reverse their intervention afterwards. So probably the supply demand imbalance was positive there.

## 2020-03-04 Dale on EUR

When you have the very rapid move in global rates especially in US rates compare to the European rates, and the market exposed probably to one side, you'll get this kind of thing in Euro. But forward sustained move in euro is ... with about growth differential. And right now when you look at the Europe, you don't see a lot of positivity in terms of forces act in on. The dynamics, political dynamics is not very good.

I have slight... I don't really have position in EUR but one tech is vol exposed. Even 1 year vol. So... For pricing of option, that 2 vol makes enough big difference. And also the skew...10delta risk reversal. Quite long EUR. While they basically short EUR. And also short vols as well. So that's what happen when the ??? to cover. They have to cover up this and other stuff. So that's 2 things. You sell EUR calls knocking in above. So what you're doing is selling extra ..., coz I don't think it is sustained.

## 2020-03-04 FX meeting

DT: I'm there to by a 9m EURGBP downside, for a strike around 82-82.5. The basic there is that nothing going on has changed in terms of relative cyclical risk dynamics. You can make the argument that the risk is rising in the Europe relative to the UK. But there're significant rallying in EURGBP. If you try to dissect the rally, it's really

down to the EUR, which has been the big outperformer. Couple of things. First of all, the rates expectation ... EUR buying across the ... and Bank of England now set to cut ... pressure EURGBP higher to the peaks. I think in the medium term the EURGBP and the relative differentials have very little to do with each other. EURGBP is traded most on some kind of risk premium type. So you got this temporary rate move differentials of sterling in particular. EUR send to 5% higher around the peaks. We're there probably 10 days ago. The strike we got the low of 83...

So I think this is an opportunity to go on a trade, relatively cheap forward agreement toward the end of the year. Digital is because not necessarily to have too much of vol in that format.

FT: The piece that I sent around are the levels and picture we're at brazil. Trying to understand why it's been trading so weakly. Like trying to look through years, it was a consensus long at the beginning of the year. Maybe now it's consensus short. I think it makes sense to look at this. It is at all time highs. It is trading very poorly I think the reason for that is there's really nothing supporting the currency at the moment. It you look through the history... if you look at the BRL vs USD, there's only one period where is could rally significantly. And that start in 2016 where you have the big weakening start 2012 and multi year, and it came off pretty aggressively. The reason for that is pretty straightward, you know, they're running a big current account deficit. Global trade volume were very weak, consumption was very high domestically. They hiked very aggressively and the carry at one point got to 13%. Current account has closed. And China was doing a massive stimulus for global growth was picking up. And I think basically now like the whole picture has reversed. Current account is going back to deficit, it is about 3% of the GDP if you use the data from Jan. Finger in the air to get a sense there is now ... where the Chinese growth is ... it's kind of like more like 5-6% in deficit. That is just the kind of rough sense. And BCB has cut very aggressively over the last few years. No rally can really stick there. Brazil trade volume is consistent with the global trade volume dropping. You're left with the situation in this thing where there is 2.5% carry discounted. There's pretty big external deficit. It's probably getting better as China stimulates. This is not the asset you want to buy if that's the case. So I think a pretty good hedge if you want to take the China reflate is like the metals or equities in some form. I think it's a good hedge for that. I think we're in the long trend in BRL and I don't think it's gonna end quickly. I think the risk here is that they step up the intervention. They've done it in the past. They did it in 2018 where they intervene volume about ... in the forward market ... about 50 yards. And that cooled off the fx a little bit. So they can do that again. So that would be the entry point to get short again. So I think now it's a little tricky. Even today I think it's trading very well. The rest of the EM is rallying and Brazil is flat. I think the picture is not gonna change that quickly.

FT: I think the cut support the domestic activity. That prevent the adjustment they need. Just the fact that it's trading so badly is telling you there's some supply demand imbalance there. I know there's gonna be FDI, but I'm wondering how much of that is going to convert into local currency. The fed ease and reflate the assets, that helped the EM currencies but they don't change the funding needs. I like the Columbia and Chile better. I just can't see this thing sustainably rallying. I think it's going to rally a bit and reverse pretty fast.

## 2020-03-05 FT on CS piece:

Think this is a very interesting piece.

The gist is that, the sudden stop in Chinese import demand has caused a drop in dollar payments globally. This causes corporations to become “deficit agents” as they must borrow funds to continue operations. If this a happens all at once it squeezes dollar funding markets. It seems likely that this dynamic is partially behind the price action we are seeing in EMFX.

Seems like all roads point to QE.

## 20200311 TJ comment on BOE emergency cut

**From:** Jelf, Tomas <tjelf@caxton.com>  
**Sent:** 11 March 2020 10:12  
**To:** Macro <Macro@caxton.com>  
**Subject:** BOE press conference - Carney's finest hour

An impressive performance by both Carney and Bailey, that is highly confidence building.

1.       The message that came across is that the Bank will ensure that the financial system, which is now healthy, facilitates the economy's financing need through the current shock.

2.       The package is powerful on several dimensions; price of money, quantity of funds and liquidity.

3.      It is, as Carney pointed out on several occasions, a big package. He highlighted that the £190bn released by the change in the cyclical capital buffer equates to 13x of business lending last year. The new “Term Funding scheme with additional incentives for Small and Medium-sized Enterprises” makes it sufficiently targeted.

4.     The moral suasion on commercial banks was explicit. In the words of the incoming governor: 'We expect [financial institutions] to treat their customers fairly'.

5.      Several hints by Carney that the government will do their part in the budget at 12.30pm.

The UK is providing the blue print how to respond to the shock. At least outside of healthcare.

Policy makers elsewhere will hopefully take notice.

Lastly, Carney provided explicit description of the anecdotal evidence of economic activity the Bank has collected. There has been a significant slowdown in activity over the past week to 10 days, with declines in footfall in shops. Following his comments,t eh forthcoming slowdown in the official data should not be a surprise to anyone.

## 2020-3-21 FT on EM govt bond issuance, and bond sell off

Good table below on estimated impact of Covid on each country.

The estimate is based on two things:

1)      The external drag from trade (CMD, Non CMD and tourism)

2)      Domestic drag from having to shut down

This does not count the FCI tightening we are experiencing or the confidence shock that may permeate for a while.

Seems pretty clear that government deficits are going to shoot up globally.

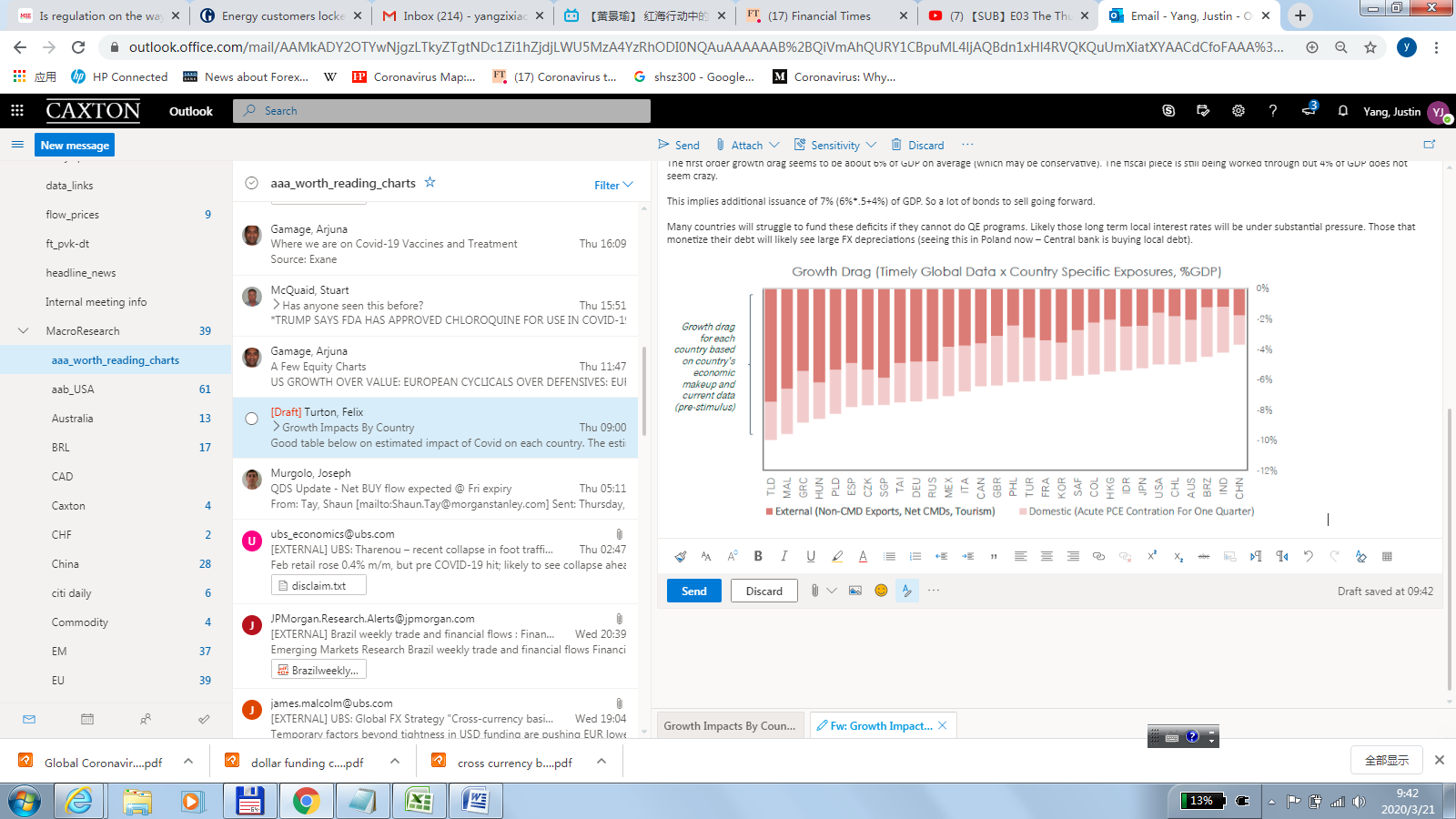
a)      Lost revenues: Growth drag X 50% (tax rate)

b)      Additional fiscal to plug the income gap in the population

The first order growth drag seems to be about 6% of GDP on average (which may be conservative). The fiscal piece is still being worked through but 4% of GDP does not seem crazy.

This implies additional issuance of 7% (6%\*.5+4%) of GDP. So a lot of bonds to sell going forward.

Many countries will struggle to fund these deficits if they cannot do QE programs. Likely those long term local interest rates will be under substantial pressure. Those that monetize their debt will likely see large FX depreciations (seeing this in Poland now – Central bank is buying local debt).



Meeting: FT: I think I don't have a good sharp analysis, probably will come out soon as we looking at it. But if you take a back of envelop calculation and look the global growth is trend like 3-4%. And the coronavirus, we're going to shave 10% of the global growth. Even for the next year. That's the impact of trade and shutting down. That's not even the FCI impact we're going to get. And companies are going to shut. People already don't have any savings, people get pulled out of their jobs so you may get even more contractions. But just say 10% drop in GDP. Tax revenues for government is about half of GDP. So that's a 5% swing right there. And you have the fact that you're gonna have fiscal to plug the gap. It's gonna vary by country. But let's say if you're gonna get a 3-4% fiscal to plug the gap. That's a swing in issuance like 8% of GDP. It's gonna vary by country but there's a lot of bond to be sold. Certain contries like the US is gonna out and print and buy the bonds. No bond have been sold yet. There's might be a timing mismatch that they're not doing enough at the beginning. But even assuming theyre matched, certain countries can not buy their debt. And I guess that can feel a lot of pressure on the long end. And those that are not reserve currencies are going to feel a lot of depreciation pressure on the exchange rate. And you've seen in poland they've started a QE programme. The estimate is like there's gonna be a 6% of GDP swinging in growth. They're going to sell a lot of bond and Bank of Poland is going to buy them but you see they're under pressure everyday. I don't think this is for the speculators to price in the market coz the numbers are quite small compare with what we're talking about. Coz the bond haven't been sold yet and government have not issued more bond. We could have big sell-off in the rates across the world.

Andrew law: I know that the bank of england came and talked about this in the past. They jsut credit the government's account on a overnight basis. Pending the issuance and step up in QE as you say. They're more in line with the forthcoming issuance.

I think this is something big in the market. This is not gonna be choppy like the EUR move or the sterling moves. That's for the real reason. That's probably gonna keep happening. I think the trend you see here is goning to be the good template to play out.

## 2020-3-25 FT on brazil

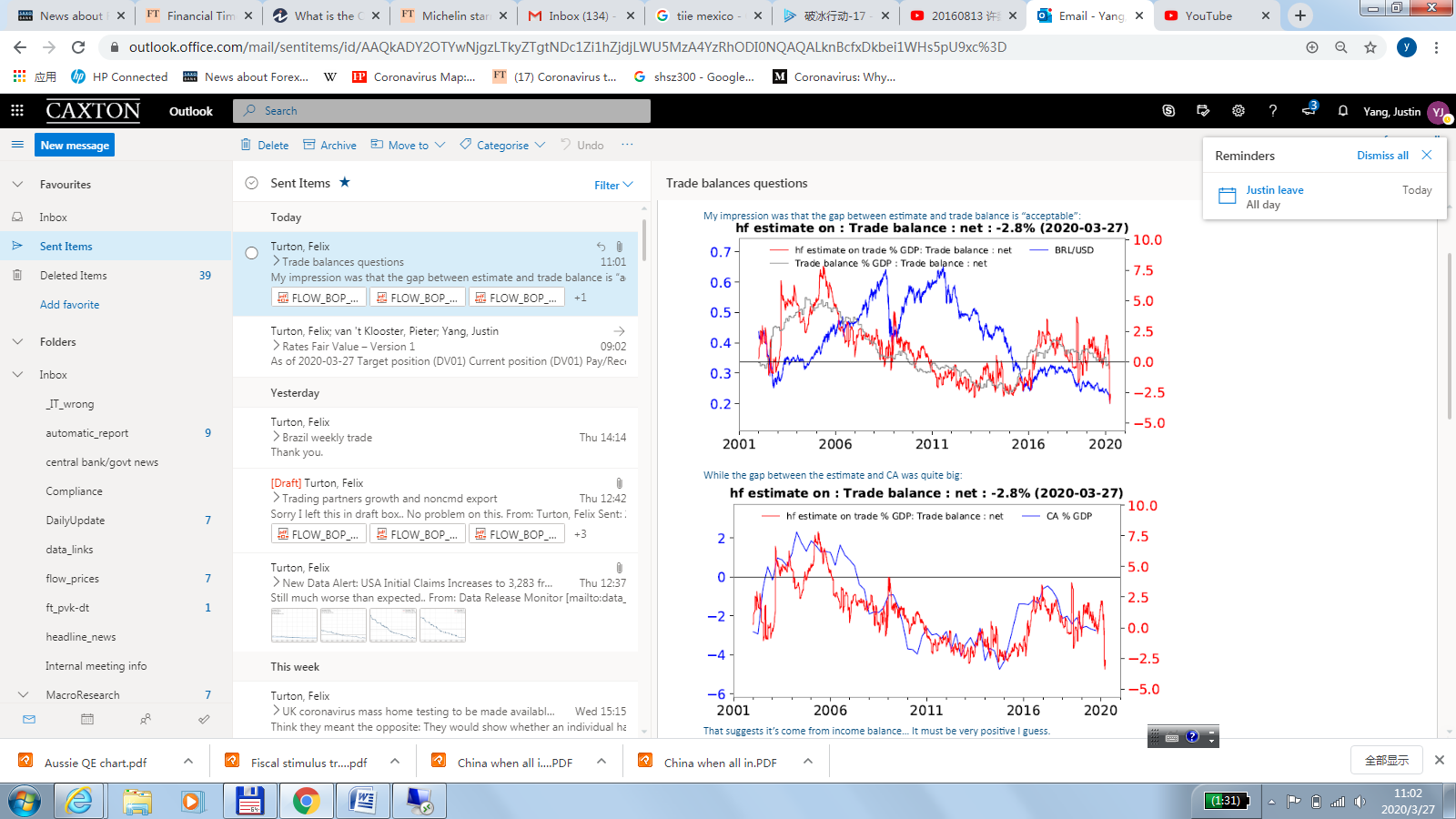
- we can explain all the major moves when the CA project is done. And it's interesting but that currency has been very weak for some time, even when cmd prices pciked up last year it did not rally. And the weakening it has done recently is small in the historical context. The central bank wants it weaker, they just managing it there.

On spx, the next big move is down, maybe rally 10%. Think everyone will want cash for a while. The monetary policy won't fix the growth hole, but it will stop this from spiraling. Fed basically need to allow the investor to delever in a managed way. Everyone is long risk assets on a leveraged basis. So you need people to come out of their positions. People can be long as many equities and in some ways bonds might be a negative asset, the opposite of diversifying assuming the fed won't cut. You can protect against this risk by putting on steepener, 2s10s.

EMFX is going to get destroyed. And who is running CA surplus, we don't have data but global exports are getting destroyed. So maybe you were running a surplus yesterday, who knows today. And you can see all these guys intervening. But that can happen for so long as they are selling usd at bad price (meaning they can sell it later at much better price because the USD will be up further. They have to sell it now). They're lossing reserves at bad levels.

If we can become comfortable with our CA estimate we can send something to Andrew. Mostly as trade recommendation. I'll speak with a brazilian economist today but I think what is happening is that bond markets across em are very stressed because of the foreign outflows and the likely fiscal deficits. So central banks are either buying bond directly(poland) or cutting reserve requirement of banks. Which frees up liquidity. Then the question is what happens to this liquidity and if that dynaic is sustainable. FX will likely come under pressure. But the key piece is to get comformatble with the CA estimate. They are smoothing the FX depreciation out with intervention in swaps. but really they're selling at bad levels and they know it, so it won't happen forever. Thye're interevening 9bn in swap and 10 in swaps. And you can tell from the price action.

2020-3-27 FT comments on the mode:



The model is not catching up the picking up in esrly 2015.

Note: 1. to get the model right, important to pick up the big movement.

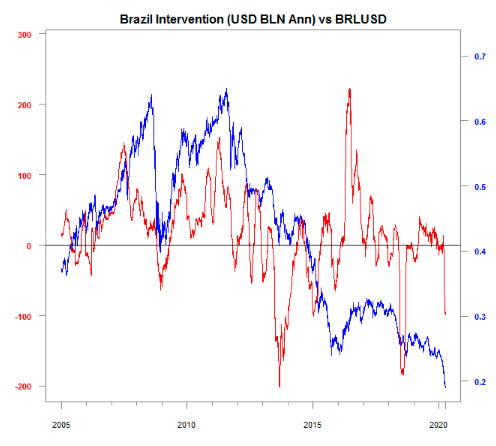
2. is the model smooth? How to explain all the big choppy in the model?

3. is the data all correct?

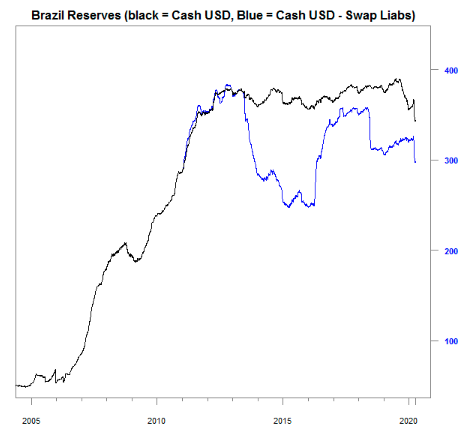
4. is there any big component missing?

## 2020-4-3 FT on brazil central bank intervention

Below is swap + spot intervention by the Brazilian Central bank (3 month annualized, USD BLNS). The swap data looks stale to me (bberg values end in mid march) so the pace is likely even faster. I believe this is a good example of why we have seen a slowdown in the EMFX sell off. It is happening across the board and I believe central banks will need to decide if they want to keep selling USD at bad levels.



Here are the levels of reserves in USD blns. Note that in the last phase of BRL weakness (14-15) the BCB mostly used swaps. Now they are using both.



## 2020-4-2 FT: rates models to work again

All rates signals are saying receive. This is coming from the simple fact that conditions have deteriorated rapidly and nothing is priced (because we are the apparent lower bound). The straight forward and obvious interpretation is that other types of easing is required (and we are getting this with QE and fiscal).

However, the full extent of the damage has not flowed into many of the key statistics yet (even Atlanta fed is saying growth is around 2% in USA). Tomas sent around some more timely indicators from the Fed earlier but even those metrics only crashed at the bottom of the equity sell off.

I believe the indicators in these models will work again (and show differentiation across countries, particularly on the bounce), but they need the data to take its shape.

         USA: Net signal (-1.3 to -1.5) is more in receiving position. Conditions(-1.6 to -1.9) went lower and pricing(0 to -.2) flattened.

o   Growth vs potential(.6 to .5) came in lower

o   Changes gauge(-1. To -2.) came in more negative

o   Forward growth(-1.4 to -2.) came in lower due to social distancing measures and sobering outlook hurts investment confidence.

o   Global gauges(-6. To 4.7) improved as global financial conditions eased.

         CAN: Net signal(-.6 to -1.2) is more in receiving position. Conditions(-.6 to -1.) came in lower and pricing(0 to .4) steepened.

o   Growth vs potential(-.4 to -1.2) came in lower.

o   Forward growth(-.8 to -1.3) worsened.

o   Global gauges(-4.8 to -3.3) improved as financial conditions eased.

         GBR: Net signal(-.7 to -1.2) is more in receiving position. Conditions(-.8 to -1.4) moved down further and pricing(0 to -.1) flattened.

o   Growth vs potential(-.5 to -1.9) came in lower.

o   Global condition(-4.7 to -3.2) eased.

         AUS: Net signal(-1.7 to -1.5) is less received. Conditions(-1.9 to -1.8) improved and pricing(-.3) unchanged.

o   Global condition(-4.7 to -3.3) eased.

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| **Rates Model Summary 2020-04-02** | | | | | | | | | | | | | | | | | | | | | | | | |  |
|  |  |  |  |  | |  | |  | | |  | |  | | |  |  | | |  | |  | | |  |
|  |  | **Aggregate Conditions (z)** | | | |  | | **Pricing (z)\*** | | | | | | | |  | **Net Signal (z)\*\*** | | | | | | | |  |
|  |  | **Spot** | **-1m** | **-3m** | |  | | **Spot** | | | **-1m** | | **-3m** | | |  | **Spot** | | | **-1m** | | **-3m** | | |  |
|  |  |  |  |  | |  | |  | | |  | |  | | |  |  | | |  | |  | | |  |
| **USA** |  | **-1.9** | -0.1 | 0.2 | |  | | **-0.2** | | | -0.7 | | -0.6 | | |  | **-1.5** | | | 0.1 | | 0.4 | | |  |
| **CAN** |  | **-1.0** | -0.5 | -0.6 | |  | | **0.4** | | | -0.8 | | -0.7 | | |  | **-1.2** | | | -0.1 | | -0.2 | | |  |
| **GBR** |  | **-1.4** | -0.6 | -1.0 | |  | | **-0.1** | | | -0.6 | | -0.6 | | |  | **-1.2** | | | -0.3 | | -0.7 | | |  |
| **AUS** |  | **-1.8** | -1.4 | -1.2 | |  | | **-0.3** | | | -0.6 | | -0.6 | | |  | **-1.5** | | | -1.1 | | -0.8 | | |  |
|  |  |  |  |  | |  | |  | | |  | |  | | |  |  | | |  | |  | | |  |
| *\*   Pricing z is calculated as 2y1d - 1wk swap - 20 bps of risk premium, divided by long term vol of that series.* | | | | | | | | | | | | | | | | | | | | | | | | |  |
| *\*\*  Net signal assigns a 70% weight to the z of conditions and a 30% weight to the z of pricing and then scales the resulting series back to a z value scale.* | | | | | | | | | | | | | | | | | | | | | | | | |  |
| *\*\*\* A negative value for Aggregate Conditions and Net Signal means rates are expected to fall.* | | | | | | | | | | | | | | | | | | | | | | | | |  |
| **Rates Model Detail 2020-04-02** | | | | | | | | | | | | | | | | | | | | | | | |  | |
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|  | | | |  | **USA (z)** | | | |  | **CAN (z)** | | | |  | **GBR (z)** | | | |  | | **AUS (z)** | | |  | |
|  | | | |  | **Spot** | | **-3m** | |  | **Spot** | | **-3m** | |  | **Spot** | | | **-3m** |  | | **Spot** | | **-3m** |  | |
|  | | | |  |  | |  | |  |  | |  | |  |  | | |  |  | |  | |  |  | |
| **Aggregate** | | | |  | -1.9 | | 0.2 | |  | -1.0 | | -0.6 | |  | -1.4 | | | -1.0 |  | | -1.8 | | -1.2 |  | |
|  | | | |  |  | |  | |  |  | |  | |  |  | | |  |  | |  | |  |  | |
| **Levels** | | | |  | **0.3** | | 0.6 | |  | **0.6** | | 0.8 | |  | **-0.8** | | | 0.0 |  | | **-1.1** | | -0.9 |  | |
| **GrowthvPotential** | | | |  | **0.5** | | 0.0 | |  | **-1.2** | | -0.5 | |  | **-1.9** | | | -1.5 |  | | **-1.5** | | -1.0 |  | |
| **Changes** | | | |  | **-2.0** | | 0.3 | |  | **0.3** | | -0.4 | |  | **-0.4** | | | -0.6 |  | | **-1.5** | | -1.2 |  | |
| **Forward Growth** | | | |  | **-1.8** | | 0.7 | |  | **-1.3** | | -0.6 | |  | **-1.4** | | | -1.2 |  | | **-1.0** | | -0.6 |  | |
| **Forward Inflation** | | | |  | **-2.0** | | 0.3 | |  | **-1.7** | | -0.5 | |  | **-2.0** | | | -0.9 |  | | **-1.0** | | -0.2 |  | |
| **Credit/Housing** | | | |  | **0.2** | | -0.5 | |  | **0.5** | | -0.2 | |  | **1.0** | | | -0.1 |  | | **0.5** | | -0.1 |  | |
| **Global Conditions** | | | |  | **-4.7** | | -1.0 | |  | **-3.3** | | -0.8 | |  | **-3.2** | | | -0.7 |  | | **-3.3** | | -0.8 |  | |
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## 2020-3-29 FT on Current account project

Below is an update on the work Justin and I are doing on EMFX. Our goal is to come up with a template to model the trade balance for any EM Country. That is, we are coming up with a high frequency projection of where the trade balance will be over the next three months. We are using Brazil as a benchmark example.

For anything exported/imported, there is just price and volume. For NonCMD items, we hold price constant and use growth to project volumes. For CMD, we go through each export/import line item and find daily prices that correspond to those items. For CMD volumes we use a combination of historical volumes and growth. We then roll all this up to an estimate of the Current Account as % of GDP. Below is the structure:

1.       CMD

a.       Exports

                                                               i.      Agriculture

1.       Sugar

a.       Price estimate

                                                                                                                                       i.      High frequency sugar future data

b.      Volumes estimate

                                                                                                                                       i.      Trailing volumes (monthly data)

1.       Can be improved if we have information on harvests.

2.       Metals

a.       Price Estimate

                                                                                                                                       i.      Iron Ore prices

b.      Volumes

                                                                                                                                       i.      Chinese growth

3.       Energy…

b.      Imports (same as above)

2.       Non CMD

a.       Exports

                                                               i.      Prices

1.       Held constant as this is not volatile

                                                             ii.      Volumes

1.       Trading partner growth

2.       Trading partner FCI

b.      Imports

                                                               i.      Prices

1.       Held constant

                                                             ii.      Volumes

1.       Domestic growth

2.       Domestic FCI

These estimates need tightening up but here is what we have so far for Brazil (currently we estimate they are in a -5.4% of GDP CA deficit, whereas lagged data has this at -3% of GDP)

-Red is our High Frequency Estimate of the **Current account**

-Grey is the Actual Current Account (note this data is monthly and lagged)

-Blue is BRLvsUSD

**In total, I believe this means Brazil is in a vulnerable position. Some additional things to consider are:**

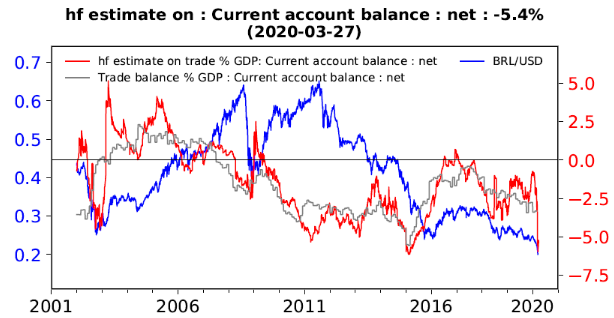
-Brazil has done about 20 bln in FX intervention in the past two months (10 bln in forwards, 10 bln in spot), 6% of GDP on an annualized basis. You can see that his has slowed down the depreciation (has gone from a sharp sell off to a regular bleed). But to me, this means the FX is under quite a big of pressure (both Current and Capital accounts is in deficit).

-The central bank has cut rates further despite the FX weakening 15% in the last few months. This is consistent with many other EM countries. I believe this is a clear statement that domestic health is more important than FX stability. This is opposite to 2016 where the Carry ended up being 20%.

-The central bank has been buying local assets in a quasi QE manner. This should just create excess liquidity that will get pushed out of the country (though I am still trying to understand the exact linkage between more liquidity and movement of that liquidity outside of the currency).

-USDBRL rose 70% from 2014 to 2016. Since the start of the year, USDBRL has gone up 25%.

-I think its is highly likely we trade through 5.5 as it is hard to see how we get a sustained rally (instead of just pull backs).



2020-4-3 FT market focus:

Fed is buying every bond on the market. That's what I missed. Got the steepener in Maylaysia. Mostly short EMFX. They're trying to stop the treasury market eploding. Which was what happening. Everyone scrambling for cash. And then the gov doing all this fsical. Bond would have exploded if they did not do record QE. It's yield curve control, indirectly.

Key elements are:

1. QE to allow people to deleverage without crashing the financial system.

2. compensating business and helping them keep the lights on.

3) infusion to households.

For 2, I think business will hesitate to take loan. Might just wait until activity picks up. 3. if you get money from the governemnt you will save it. And people who has not pull back their job will pull back too. And we're going to have weak demand and output for a while. We're in a pretty disflationary senario. Hard to price longer term inflation now.

## 2020-4-12 FT calls on EMFX(BRL, HUF):

My basic bias is to be short EM currencies, I don't think that's over. But you know, we're getting more easing from the fed. Looks like stabilization of oil prices. So you have to be a little careful. And flows have been pretty extended on the negative side for a while. Also there're chances that a pull back from some of these currencies. And equities. I bought equities at good levels. They've rallied a lot. So it's hard to know how much further they gotta go. Nothing at rates. It's really hard to tell. The central banks just buying all the bonds in existence. I think the interesting question on bond is eventually they're gonna taper. That's gonna be something to think about because there're gonna be a bunch of issuance. They're actually going to stop buying but I don't think we're there yet.

I think for equities it's difficult because you kinda have to be a specialist. And there're a lot of different forces that are going on. On one hand they're doing yield curve control, which is I think they're effectively doing. They're just paying rates, printing all this money, you really can't buy bonds now, that's not giving you any yield. There're so much cash in the system that it's going to go to somewhere. So you have that being a pretty big support to equities. The federal government is setting up something that for years now, the central bank is just printing money. And they just pump cash to people. And create some ease in that way. But we know the earnings gonna be awful. This is a bigger drawdown that the financial crisis. It's really hard to net all that stuff out.

I think in currency market, it's actually cleaner. To some degree it doesn't matter what your carry is. You get 3-4% carry for holding a emerging market currency over a year. But you can lose that in a day. And there's no upside to it. Like when you buy a bond or equity you have the ability to have a duration impact and you can achieve a lot of gains in a short period of time. For currency the only way to get that is the spot. You don't really care about carry. Carry is just a segment of a year return. I think this big drawdown in the output is going to squeeze a lot of places. And figuring out where is getting squeezed is probably the right way to go.

But that's tricky because you have central banks intervening like brazil looks awful to me. And the currency has been selling off. And on top of that they've been intervening. If they haven't been doing that, they would have been blasting through 6 by now. But they're keeping it stable and burning their reserves. I think the place that I like is EURHUF higher. It's not really a trade for Andrew because it's too small. But they're manufacturing hub. They basically produce cars and machinery right. And we know that auto demand is going to be crashed globally. And they're exporting about 10bn euros worth of goods every month. And they're a small economy. So that is basically going to zero. So they're not getting euros. And they're definitely not getting any capital inflows. No one is doing FDIs there, right. No one's buying bonds. So you have the situation that they have to plug the whole of 10 bn. They have 25 bn in reserve. And it's a tiny amount of money. It's not for global asset to park. That's somewhere is going to be hurt really badly for this. And they're going to be tightening the CB policy if their FX getting out of control. But you would say they're tightening the policy so you should be long the fx. But that just tell me that they're not able to stop the fx so they have to hijack the interest rate. But I'm trying to find other places that going to get hurt as well.

We know that exports are dropping a lot. Another interesting question is what's happening on the import side. Because if you have lockdowns in these countries, for that moment of lockdown no one is going to buy anything right. Maybe they're buying digital goods but ultimately it's an outflow because Netflix. But they're not going to consume anything. So both sides of the equation. So now even though they're not export anything they're not importing either. Its like a deadzone. Now it's a interesting question that who is locking down properly and who is popping consumption. But what I think is going to happen is that when these economy is getting back to work. With all the fiscal stimulus and monetary stimulus, import is going up.

## 2020-4-17 FT on Rates:

2020-4-2:

All rates signals are saying receive. This is coming from the simple fact that conditions have deteriorated rapidly and nothing is priced (because we are the apparent lower bound). The straight forward and obvious interpretation is that other types of easing is required (and we are getting this with QE and fiscal).

However, the full extent of the damage has not flowed into many of the key statistics yet (even Atlanta fed is saying growth is around 2% in USA). Tomas sent around some more timely indicators from the Fed earlier but even those metrics only crashed at the bottom of the equity sell off.

I believe the indicators in these models will work again (and show differentiation across countries, particularly on the bounce), but they need the data to take its shape.

         USA: Net signal (-1.3 to -1.5) is more in receiving position. Conditions(-1.6 to -1.9) went lower and pricing(0 to -.2) flattened.

o   Growth vs potential(.6 to .5) came in lower

o   Changes gauge(-1. To -2.) came in more negative

o   Forward growth(-1.4 to -2.) came in lower due to social distancing measures and sobering outlook hurts investment confidence.

o   Global gauges(-6. To 4.7) improved as global financial conditions eased.

         CAN: Net signal(-.6 to -1.2) is more in receiving position. Conditions(-.6 to -1.) came in lower and pricing(0 to .4) steepened.

o   Growth vs potential(-.4 to -1.2) came in lower.

o   Forward growth(-.8 to -1.3) worsened.

o   Global gauges(-4.8 to -3.3) improved as financial conditions eased.

         GBR: Net signal(-.7 to -1.2) is more in receiving position. Conditions(-.8 to -1.4) moved down further and pricing(0 to -.1) flattened.

o   Growth vs potential(-.5 to -1.9) came in lower.

o   Global condition(-4.7 to -3.2) eased.

         AUS: Net signal(-1.7 to -1.5) is less received. Conditions(-1.9 to -1.8) improved and pricing(-.3) unchanged.

o   Global condition(-4.7 to -3.3) eased.

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| **Rates Model Summary 2020-04-02** | | | | | | | | | | | | | | | | | | | | | | | | |  |
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|  |  | **Aggregate Conditions (z)** | | | |  | | **Pricing (z)\*** | | | | | | | |  | **Net Signal (z)\*\*** | | | | | | | |  |
|  |  | **Spot** | **-1m** | **-3m** | |  | | **Spot** | | | **-1m** | | **-3m** | | |  | **Spot** | | | **-1m** | | **-3m** | | |  |
|  |  |  |  |  | |  | |  | | |  | |  | | |  |  | | |  | |  | | |  |
| **USA** |  | **-1.9** | -0.1 | 0.2 | |  | | **-0.2** | | | -0.7 | | -0.6 | | |  | **-1.5** | | | 0.1 | | 0.4 | | |  |
| **CAN** |  | **-1.0** | -0.5 | -0.6 | |  | | **0.4** | | | -0.8 | | -0.7 | | |  | **-1.2** | | | -0.1 | | -0.2 | | |  |
| **GBR** |  | **-1.4** | -0.6 | -1.0 | |  | | **-0.1** | | | -0.6 | | -0.6 | | |  | **-1.2** | | | -0.3 | | -0.7 | | |  |
| **AUS** |  | **-1.8** | -1.4 | -1.2 | |  | | **-0.3** | | | -0.6 | | -0.6 | | |  | **-1.5** | | | -1.1 | | -0.8 | | |  |
|  |  |  |  |  | |  | |  | | |  | |  | | |  |  | | |  | |  | | |  |
| *\*   Pricing z is calculated as 2y1d - 1wk swap - 20 bps of risk premium, divided by long term vol of that series.* | | | | | | | | | | | | | | | | | | | | | | | | |  |
| *\*\*  Net signal assigns a 70% weight to the z of conditions and a 30% weight to the z of pricing and then scales the resulting series back to a z value scale.* | | | | | | | | | | | | | | | | | | | | | | | | |  |
| *\*\*\* A negative value for Aggregate Conditions and Net Signal means rates are expected to fall.* | | | | | | | | | | | | | | | | | | | | | | | | |  |
| **Rates Model Detail 2020-04-02** | | | | | | | | | | | | | | | | | | | | | | | |  | |
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|  | | | |  | **USA (z)** | | | |  | **CAN (z)** | | | |  | **GBR (z)** | | | |  | | **AUS (z)** | | |  | |
|  | | | |  | **Spot** | | **-3m** | |  | **Spot** | | **-3m** | |  | **Spot** | | | **-3m** |  | | **Spot** | | **-3m** |  | |
|  | | | |  |  | |  | |  |  | |  | |  |  | | |  |  | |  | |  |  | |
| **Aggregate** | | | |  | -1.9 | | 0.2 | |  | -1.0 | | -0.6 | |  | -1.4 | | | -1.0 |  | | -1.8 | | -1.2 |  | |
|  | | | |  |  | |  | |  |  | |  | |  |  | | |  |  | |  | |  |  | |
| **Levels** | | | |  | **0.3** | | 0.6 | |  | **0.6** | | 0.8 | |  | **-0.8** | | | 0.0 |  | | **-1.1** | | -0.9 |  | |
| **GrowthvPotential** | | | |  | **0.5** | | 0.0 | |  | **-1.2** | | -0.5 | |  | **-1.9** | | | -1.5 |  | | **-1.5** | | -1.0 |  | |
| **Changes** | | | |  | **-2.0** | | 0.3 | |  | **0.3** | | -0.4 | |  | **-0.4** | | | -0.6 |  | | **-1.5** | | -1.2 |  | |
| **Forward Growth** | | | |  | **-1.8** | | 0.7 | |  | **-1.3** | | -0.6 | |  | **-1.4** | | | -1.2 |  | | **-1.0** | | -0.6 |  | |
| **Forward Inflation** | | | |  | **-2.0** | | 0.3 | |  | **-1.7** | | -0.5 | |  | **-2.0** | | | -0.9 |  | | **-1.0** | | -0.2 |  | |
| **Credit/Housing** | | | |  | **0.2** | | -0.5 | |  | **0.5** | | -0.2 | |  | **1.0** | | | -0.1 |  | | **0.5** | | -0.1 |  | |
| **Global Conditions** | | | |  | **-4.7** | | -1.0 | |  | **-3.3** | | -0.8 | |  | **-3.2** | | | -0.7 |  | | **-3.3** | | -0.8 |  | |

2020-4-16:

Same read as last week, just more received now given the data has had more time to flow through. Waiting on key Credit and Home price data prices too see how that picture has been impacted.

         USA: Net signal (-4.0 to -4.4) is more in receiving position. Conditions(-4.9 to -5.5) went lower and pricing(-.1 to -.2) flattened.

o   Growth vs potential(-8.0 to -8.2) came in lower.

o   Changes gauge(-2.6 to -4.8) came in more negative

o   Forward growth(-4.3 to -4.6) remained at low levels.

o   Global gauges(-5.2) unchanged from previous week.

         CAN: Net signal(-2.4 to -3.6) is more in receiving position. Conditions(-2.2 to -3.6) came in lower and pricing(.6 to .3) flattened.

o   Growth vs potential(-1.6 to -3.1) came in lower.

o   Forward growth(-2.9 to -3.6) worsened amid weaker forward consumption.

o   Global gauges(-6.8 to -7.0) remained at low levels.

         GBR: Net signal(-2.4) unchanged. Conditions(-2.8 to -2.9) moved down further and pricing(-.1 to -.2) flattened.

o   Growth vs potential(-3.1 to -3.2) came in lower.

o   Global condition(-6.7 to -7.0) worsened.

         AUS: Net signal(-1.9 to -3.7) is more received. Conditions(-2.1 to -4.1) moved lower and pricing(-.2) unchanged.

o   Growth vs potential(-1.5 to -4.4) came in lower.

o   Changes gauge(-1.1 to -3.5) came in lower.

o   Global condition(-6.7 to -7.0) remained very low.

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| **Rates Model Summary 2020-04-16** | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  | |  | |  | | |  | |  | | |  |  | | |  | |  | | |
|  |  | **Aggregate Conditions (z)** | | | |  | | **Pricing (z)\*** | | | | | | | |  | **Net Signal (z)\*\*** | | | | | | | |
|  |  | **Spot** | **-1m** | **-3m** | |  | | **Spot** | | | **-1m** | | **-3m** | | |  | **Spot** | | | **-1m** | | **-3m** | | |
|  |  |  |  |  | |  | |  | | |  | |  | | |  |  | | |  | |  | | |
| **USA** |  | **-5.5** | -1.5 | 0.3 | |  | | **-0.2** | | | -0.5 | | -0.6 | | |  | **-4.4** | | | -1.0 | | 0.5 | | |
| **CAN** |  | **-3.6** | -0.7 | -0.6 | |  | | **0.3** | | | -0.4 | | -0.8 | | |  | **-3.6** | | | -0.5 | | -0.2 | | |
| **GBR** |  | **-2.9** | -0.6 | -0.9 | |  | | **-0.2** | | | -0.4 | | -0.6 | | |  | **-2.4** | | | -0.4 | | -0.6 | | |
| **AUS** |  | **-4.1** | -1.7 | -1.2 | |  | | **-0.2** | | | -0.5 | | -0.6 | | |  | **-3.7** | | | -1.4 | | -0.8 | | |
|  |  |  |  |  | |  | |  | | |  | |  | | |  |  | | |  | |  | | |
| *\*   Pricing z is calculated as 2y1d - 1wk swap - 20 bps of risk premium, divided by long term vol of that series.* | | | | | | | | | | | | | | | | | | | | | | | | |
| *\*\*  Net signal assigns a 70% weight to the z of conditions and a 30% weight to the z of pricing and then scales the resulting series back to a z value scale.* | | | | | | | | | | | | | | | | | | | | | | | | |
| *\*\*\* A negative value for Aggregate Conditions and Net Signal means rates are expected to fall.* | | | | | | | | | | | | | | | | | | | | | | | | |
| **Rates Model Detail 2020-04-16** | | | | | | | | | | | | | | | | | | | | | | | |  |
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|  | | | |  | **USA (z)** | | | |  | **CAN (z)** | | | |  | **GBR (z)** | | | |  | | **AUS (z)** | | |  |
|  | | | |  | **Spot** | | **-3m** | |  | **Spot** | | **-3m** | |  | **Spot** | | | **-3m** |  | | **Spot** | | **-3m** |  |
|  | | | |  |  | |  | |  |  | |  | |  |  | | |  |  | |  | |  |  |
| **Aggregate** | | | |  | -5.5 | | 0.3 | |  | -3.6 | | -0.6 | |  | -2.9 | | | -0.9 |  | | -4.1 | | -1.2 |  |
|  | | | |  |  | |  | |  |  | |  | |  |  | | |  |  | |  | |  |  |
| **Levels** | | | |  | **0.0** | | 0.6 | |  | **0.0** | | 0.8 | |  | **-0.8** | | | -0.1 |  | | **-3.2** | | -1.0 |  |
| **GrowthvPotential** | | | |  | **-8.2** | | 0.0 | |  | **-3.1** | | -0.6 | |  | **-3.2** | | | -1.5 |  | | **-4.4** | | -1.0 |  |
| **Changes** | | | |  | **-4.8** | | 0.2 | |  | **-2.4** | | -0.4 | |  | **-1.6** | | | -0.5 |  | | **-3.5** | | -1.3 |  |
| **Forward Growth** | | | |  | **-4.1** | | 0.8 | |  | **-3.6** | | -0.6 | |  | **-3.0** | | | -0.9 |  | | **-1.8** | | -0.6 |  |
| **Forward Inflation** | | | |  | **-1.8** | | 0.3 | |  | **-1.2** | | -0.5 | |  | **-1.7** | | | -1.0 |  | | **-0.9** | | -0.2 |  |
| **Credit/Housing** | | | |  | **0.2** | | -0.4 | |  | **0.5** | | -0.1 | |  | **1.3** | | | 0.1 |  | | **0.2** | | 0.0 |  |
| **Global Conditions** | | | |  | **-5.2** | | -1.0 | |  | **-7.0** | | -0.8 | |  | **-7.0** | | | -0.8 |  | | **-7.0** | | -0.8 |  |

## 2020-4-21 FT: high quality research from DB

## 2020-4-22 Call with Pieter

1. working on EMFX projects. Finished the template for current account balance estimation.

2. latest update on rate

2020-4-20 FT

1. EM central bank will not hike for a long time.

2. Interesting indicator: M2/central bank reserves (interesting for IDR). Not sure how this will do on the currency depreciation directly. Take a change in this thing and see how much excess liquidity is being created. When goes up its should be bearish FX. And could be proxy for locals leaving the fx. Worth to plot at some point.

On the divergence of oil and stocks:

That personifies what the world is like today: lots of liquidity to buy yielding assets but there being like not spot growth. Think the same reason EMFX still underperforms. I think they need to made an adjustment: either tighten or have a massive contraction in imports. No one is building factory because these currencies are cheap. On ZAR : keeps going. The problem is everyone is short. And I don;t understant the mechanism for fx weakness. Think you need the money to leave from the locals. They're in deep recession and the carry is getting eliminated but I don't understand who the marginal seller is. CA shuold be improving.

Suspect that EM capital market will get a lot of capital. This is because the universe of EM countries has shrunk because some of them have real prolems and investors will shy away (for example, if they lose IG credit rating). So there will be a lot of money chasing very few markets. India lines up as a key one for me but they limit foreign buying of their bonds. They might lift this though.

## 2020-4-27 FT on EM in the short term

EM continues to underperform. But it is a little difficult in the short term now. Now everyone is positioned that way. I'm inclined to switch something up. Everyone is short ZAR. I can't see the mechanism for it to weaken much more. Can make a cheeky few% on the other side.

## 2020-5-8 FT on brazil rates to do emails \*3

**Please ignore other emails. This is a cleaned up version. The attached pdf is my markings.**

1.       Brazil

a.       Pricing gauge:

                                                               i.      Use 1y1y, this is essentially the 1d rate 1.5 year forward. 2y1y is too far out.

                                                             ii.      Use 2yr swap as the instrument to trade.

b.      Conditions:

                                                               i.      Levels:

1.       Still does not look sufficiently depressed coming out of 14-15

2.       Inflation: Is this the best measure of inflation?

                                                             ii.      Changes:

1.       Add citi inflation surprise index

2.       Citi change does not look very good. See if you can smooth it, otherwise just remove.

c.       New gauge to build:

                                                               i.      External conditions: Should measure how tight external liquidity:

1.       Developed world FCI impulse (60% USA, 20% EUR, 20% JPN)

                                                                                                                                       i.      3m change in 9m fci (50%)

                                                                                                                                     ii.      6m fci (50%)

1.       Just use your judgement if you think you can do better.

b.      G 3 central bank balance sheets (not a must have but worth figuring out). Can add this as you go along.

                                                                                                                                       i.      I would call citi and ask them how you get a high frequency series of central bank asset purchases

1.       Series should be duration weighted

d.      General

                                                               i.      Change color scheme to reflect changes in the policy rate rather than the forward rates. Easier to get a sense of when the tightened.

                                                             ii.      Add current account as % GDP to charts

                                                            iii.      Add 3m change in reserves (spot and cash). Ive attached the data from Bloomberg for swaps and given you the haver code for cash reserves

1.       Both data should be in millions. The swap data are outstanding liabs so when they go up BCB is selling usd forward (intervening to protect fx).

2.       Bberg code is BRXSCS Index

3.       Haver cash code is F223ARD@INTDAILY

**Ill come back with more detail on other aspects but please start to build this gauge.**

a.       New gauge to build:

                                                  i.      External conditions: Should measure how tight external liquidity:

1.       Developed world FCI impulse (60% USA, 20% EUR, 20% JPN)

                                                                                                                          i.      3m change in 9m fci (50%)

                                                                                                                        ii.      6m fci (50%)

1.       Just use your judgement if you think you can do better.

b.      G 3 central bank balance sheets (not a must have but worth figuring out). Can add this as you go along.

                                                                                                                          i.      I would call citi and ask them how you get a high frequency series of central bank asset purchases (USA, JPN, EUR)

1.       Series should be duration weighted

Will think more about this. But this is the low hanging fruit.

1.       Brazil

a.       Pricing guage:

                                                               i.      How did you remove the risk premium?

1.       Best approach would be to take a trailing volatility (very smoothed) of the 1d rate 2years forward and multiply this by .25. I think the premium should be about 50 bps a year (which is about double g10).

a.       We should be flexible on this though, maybe we don’t want the model to be fully symmetric.

2.       Whatever we decide as the risk premium we need to create transperancy on this so we know what we are assuming.

b.      Conditions:

                                                               i.      Levels

1.       Looks okay but I would think their economy has a little more slack now. I would adjust these two. RDGP vs trend should show a deeper recession. Id also make the trend line in cap a little flatter:

2.

                                                             ii.      Growth vs potential:

1.       Looks good, no argument

                                                            iii.      Changes

1.       Add citi change index

2.       Add citi surprise index

                                                           iv.      Credit:

1.       Can you check that you are using the right measure of credit?

a.       I would include business credit too.

b.      Ill think about this more. Think we need to make this guage about how tight financial conditions are. This is when the central bank will respond to ease liquidity.

c.       Think we need a measure of how high real rates are vs history.

                                                                                                                                       i.      This may go in pricing

## 2020-5-8 Brazil rates todo call

When I look at this brazil chart, I spent decent time with them. If you look at what's going on. It's a good case study. It tells how high beta countries manage their interest rates. It's different times. But why they have to do the tightening, it does have to do with the currency. And also the level of rates does matter. And the pre-financial crisis the levels's fine. Maybe our conditions are wrong, but assume the things look fine, you don't have to do anything as a policy maker. But their rates are like 15%. So even if things look ok you kind of like emerging market country, you're going to ease like that. You have plenty room to ease. It makes sense to receive those rates. So that's the consideration, especially when the currency is not stressed any more.

I think 1/3,1/3,1/3 is pretty logical actually. Today what matters is 100% domestic conditions. So their currency is just keep selling off, it's down 40% this year. But they just say they don't care, they just keep cutting.

Brazil: FCI: you have to look at what goldman's pdf like what they uses in that indicator. Because you want to pick up the overall thing like in the banking system it becomes very tight. When the covid comes in, the spread get very elevated. The base rate doesn't rise but it costs the borrowing goes up a lot. Just to get the loans from the bank. And they're trying to offset and ease. I'm not sure the goldman's indicator actually has that inside it properly. And you have to watch out what sign they're giving to their currency inside that too. Cause they include currency as well.

During the 2013, they started 11, ended in 5. I don't know what exactly drives that, maybe in credit, but their current account become in deep deficit. Their currency just start to bleed. And I think inflation is pretty high too in that period. And they had explosive in spending. And probably it's credit fueled.

## 2020-5-11 FT on BRL

Everyone is short BRL now. It's not a good trade anymore. I'm unwinding mine.

## 2020-5-12 Ronglin on Dollar liquidity

Dollar liquidity:

1. Dollar liquidity: Dollar has no difference between onshore market (repo, primary dealer) and offshore market (Libor).

2. cross currency is a gauge for USD scarcity in offshore market (also see point 3 below)

3. Apple, foreign central banks are also dollar providers. They would go buy commercial papers if the returns are higher. This affect the dollar liquidity in offshore markets.

4. KRW, India have breakdown of foreign buy/sell

5. fed: 字母表: 所有工具

6. fed: daily data on purchasing since 2018, same with BOE and BOJ.

7. Can use DM Central bank balance sheet to predict EM performance.

8. Brazil sold off since the global crisis: mainly due to the positioning was crowded.

## 2020-5-14 Ronglin on IMM total return index

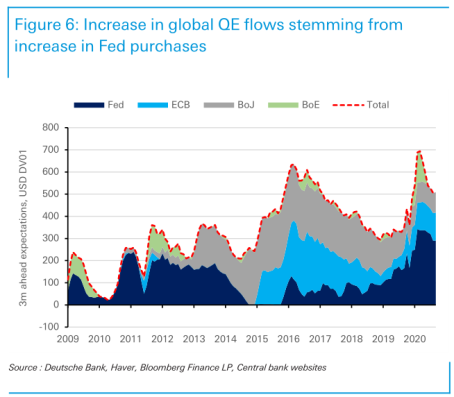
- carry and roll are the same thing. Futures basis is just difference between two contracts, but brazil DI futures is different. It's OIS swap not normal futures. DI has carry everyday which is difference between DI price and CDI - cetip DI interbank deposit rate. For all rate in the hdf file, I calculate discount curve first, then calculate IMM swap rate, the roll(carry) happenswhen it rolls to next IMM date. The function returns two series: price and price\_adj. You can see there are gaps in price one week before IMM expire date. Price-adj adj these gaps.

All dirivative price has included funding cost. Only cash product needs to consider funding.

## 2020-5-15 DB QE flows methodology

The Fed and BoE provide detailed holdings data, and the BoJ detail monthly purchases in fairly granular buckets. The ecb is the least transparent and we have tried initially to estimate a flow wam, however once reinvestments became fairly hefty the calculation no longer works and so we assume it’s inline with a market duration as the APP is meant to be market neutral. Going forward we are awaiting the granular data for PEPP to decide how to account for it.

We express the QE flow metric in gross terms (that is include reinvestments), convert it all into usd terms (anchored to mar 09 when it first started) and express it in 10y equivalent terms.



## 2020-5-18 Felix Scripts on Trade imbalance structural change going forward

So putting brazil model for one side, I think there's a very interesting question in market now. This is going to play out in the medium term but this is very important for currency. Basically I think the way the trade balance is evolved is that going to change dramatically. Imagine you're a country like you export manufacturing goods, tourism and you import everything else. Maybe food, maybe like iphones, Ikea furniture, that kind of thing. External global growth drops off the cliffs, right. They're not going to buy cars and the current inventory is too big anyway. And you're not going to produce or sell anymore cars in the next 3-6 months. No one gonna take a vacation, so that income is gone. But at the same time your central bank is trying to ease policy. So they're just taking the FX income that the country is normally getting and replacing it with local FX. And trying to get the economy to rework like start again. I think this is going to coz very large imbalances in a lot of places. The places that I'm looking at right now are C3 like Hungary, Czech and Poland. I think globally it's going to be a big deal. Based on the kind of thing that your export and your ability to stimulus locally. Like you're coming out of a lock down. That's not necessary bullish for currency. Like you're not going to sell anymore. But everyone's doing a little bit saving and take the government's money. I think it's going to take a very large structural shifts that's gonna last for a while. I think this is going to be more important than the capital flows. Because most countries have cut so much that that thing is not going to be that volatile. And the carry is low, so that's not going to be a massive source of vol. But the trade part is. So I think understanding how trade is going to evolve in these countries is going to be pretty important. Going through each country, maybe 20 countries. Decide like 10 category of trade that matters. Tourism, manufacturing goods, machinery, and then mapping the trade statistics to each one. Plotting those charts and get a read on where all these numbers are. And put on a logical projection on where you think it should go. And adding all those numbers up and say where this trade is going to be. I just get it for Poland and Hungary, it didn't take too long. I think there's definitely going to be imbalance. And that difference is going to be reflected somewhere in the exchange rate. It's hard to tell since the economy is in contraction now. I think there's a priory in to tell where you think the economy is going to be. And what do you think the exchange rate movement.

And I just looked at Hungary for example. It's a very small case. But it looks like... I don't think people really look closely to their balance. But it basically is like current account is flat. Their services export is actually very large. Half of it travel. The other half is sort of call center or techie. And if you go to goods, they've been importing oil. Ok.. And after that is really machinery. THey have pretty big surplus in. And they're net importer of manufacturer goods. It's like ipone, Ikea, all the stuff they don't produce. And if you add all that up. It's like services, their services balance is going to chop in half. That's gonna a drag of -3% of GDP going forward. You know that the oil is going to come in, the big machinery there... the kind of industry is going to slow down. So that's gonna import 1 or 2 %. And the machinery, the transport equipment it looks like European growth, it's like global growth. This thing is going to get from 9% of GDP to like 4%. The question is that if they're going to import things... they're going to cut this thing substantially to get the balance. And if they don't, it's like a 150bn dollar economy. If there's an imbalance in trade, the currency is going to feel it pretty quickly.

For Hungary in haver there're only 6 categories. A lot of stuff is lumped in. And you kind of have to figure out what each thing is. It's not that explicit. You have to figure out categories that are reasonable but you don't have 1000 things in them. And how do you project it going forward. I think if I can look at 10 different things in the world that different things are traded. I can probably punch in a number probably in a z move in the next few months. Like you can look at financial crisis and look what the drawdown is there. There's already standardisations. And in some countries they don't have the granularity that other do. There might be other data sources than haver as well. Like in Hungary there're only like 5 category of things. Ideally you want to boil it down into 10 thing.

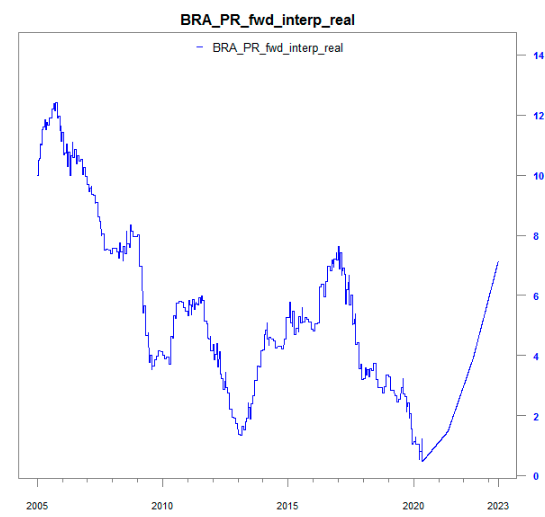
Yeah I think there're probably more categories like ... you've got Pharmaceuticals, probably something that's gonna be stable for this whole period. I think tech staff is interesting too. Like iphones and staff like that. Actually think that's gonna be fairly stable. There're capital goods imports. The machinery is going like some kind of infrastructure project. But separate from that there's manufacturing goods. Those are 2 different kinds of things. So I think there's probably about 10 categories. So I looked at Philipines. It's actually pretty interesting. There FX sold-off for a long period of time. From 15 to 18. And the reason was they had to to the infrastructure project and they had to do all the capital goods. They're running like a 4-5% of GDP. That thing went to like -2% in a fairly short period of time. The way they're stimulating their economy was through infrastructure. And I think once we have that data lined up for each country, you're going to find out that government is going to do infrastructure spending. Then you can make an assumption going forward that FX is going to put some string.

## 2020-5-18 Felix on brazil rates more emails

**Think we might want to incorporate this into pricing as well.**

The choppy part of the line is simply policy rate less core inflation. The smooth (forward part) is the implied forward curve less 12m spot inflation.

I am not sure what the correct forward inflation assumption is. But this shows you how much is priced now in real terms of inflation stays at these levels:



**So ive looked through the 2012 period where our model said pay and infact it was a receive.**

Basically, what happened in that period was:

-BCB has just tightened aggressively, real yields were very elevated

-Economic levels were still evaluated but growth, inflation and credit were coming off

-The FX has very elevated

-Global growth was slowing

-Then I believe, the fed began to expand its balance sheet and we entered a period of strong asset reflation.

If you were BCB it makes sense to start cutting rates. Maybe the economy is not yet in a dire positions but you are running tight policy with a high exchange rate. The external environment allows you to start cutting.

We need to account for this dynamic in the model.

Here is what I suggest:

1)      Fix the real yield measure. I think you have it backwards.

a.       The pricing guage should be an equal average of real yield diff usa vs Trend and the slow of the YC.

                                                              i.      Conceptually this new pricing gauge should answer two questions:

1.       How many hikes are discounted?

2.       How tight is current policy/how much room do you have to cut.

b.      This thing looks backward:

This trend looks right:

1)      Fix the external FCI gauges so that they are supportive during the expansion in fed liquidity. The direction on this chart looks like it’s the wrong way around:

2)      Add a separate measure for the fx. Look how elevated the FX was then. It had been rallying for 3 years:

3)      Find a way of adjusting our credit measure. It shows credit as being supportive in that period but in reality it was decelerating:

Lets see where this gets us. Let me know if you have any questions.

## 2020-5-18 FT on FX trade balance

**While we work on the rates models I think I makes sense to carry on with the trade balance stuff when you have down time.**

I think a good way to go about this is to map the trade/current account balances for EM countries. Instead of doing estimates of this stuff, for now I think you should just create a page of plots for each country. It should have:

1.       Current account % GDP

2.       Services balances % GDP

a.       Travel

b.      Non Travel

3.       Income balance

a.       Primary

b.      Secondary

4.       Goods Trade

a.       Imports

                                                               i.      CMD

1.       Major categories

                                                             ii.      Non CMD

b.      Exports

                                                               i.      CMD

1.       Major categories

                                                             ii.      Non CMD

5.       Countries to do next

a.       India

b.      Korea

c.       Colombia

## 2020-5-26 FT on fiscal impulse

Hi Andrew and Matt,

I wanted to flag something about the G4 rates model as applies to the current circumstances.

Currently, the models are max received across markets. This is because with the core economic stats we are using conditions are the weakest they have been in history.

However, I do not agree with the read on rates for the following reasons:

1)      We do not account for the **fiscal impulse**. We did not include this in the models because we did not have an easy and automated way of projecting fiscal spending. At the time of building them, volatility in fiscal policy was small relative to other factors. I think now it is important to account for them. Not accounting for them gives the wrong read on forward activity.

2)      On the **Supply/demand side**, rates markets are in a precarious position because, simply to keep medium to long term rates where they are, central banks will need to continue with unprecedented debt monetization. One can bet on them continuing to do that and collect a small premium or position for a slight shift in behavior. I think the latter makes more sense now.

a.       In terms of the model, PNL is being calculated on the 5yr rate. I agree with Pieter that this is essentially a short rate system so I think it makes sense to shift to the front of the curve.

3)      We use core economic statistics like CAIs, inflation, home prices, etc. Faster data is now becoming available and it might make sense to integrate these measures.

a.       The model was a bit slow to pick up the implications of Covid simply because the market was able to assess the impact of lockdown faster than the data came out. I am concerned that if metrics like foot traffic increase, the market will be using these measures as guides to assess economic growth.

In total, I am saying that the structure of the model makes sense but I am concerned that I will not be able to pick up the current inflection point we may be in. In my opinion, it would make sense to shut it down for now until we have confidence that it reflects the current reality of markets.

Felix