June 7th 2016

The Market Economy in 2020: a visualization exercise

The Emergence of a New Monetary Orthodoxy

We live through **transformational times, where we are fast reaching the limits of monetary printing, and markets are still to price that in**. GDP growth, inflation, productivity are all missing in action despite 9 years of declining rates and 6 years of monetary doping and financial engineering the world over. The **un-anchoring of inflation expectations** from Europe to Japan, previously believed to be a stationary variable, i.e. mean reverting, may best testify to the falling credibility of Central Bankers, as they ran out of policy space. Falling credibility is typical precursor to imbalances compounding (including bubbles) and then tipping off into financial crisis.

Without growth and inflation from here, there is no future for market economies as we know them. Deflation is like a death penalty for debt-laden economies. Low rates decrease service costs on debt, but negative inflation rates increase its real burden, leading into more debt-deflation. Now that interest rates and inflation are below zero, the economy is cornered and time is running out. From here, to believe in normalization of rates, GDP reverting to the mean, inflation to spring back up, may not only be wishful thinking but also dangerous inertia, a self-defeating strategy. Debt overhangs, bad demographics, chronic oversupply, technological disruption all conspire to the deficient aggregate demand, the structural deflation and the liquidity trap we see the world over. **If inflation and nominal GDP cannot be resurrected soon enough, the bubble in markets will eventually bust, the economy will stagnate at best, and discontent will trigger a change of regime into populists' parties, for them to try what current politics could not.**

It is not the first time in history that we go through an existential crisis of global capitalism. In the 20's, structural deflation led to Keynes revolution in economics. In the 70's, chronic inflation led to Milton Friedman counter-revolution, and governments like Thatcher or Reagan. Market-based economies survived both. Today, **a new form of global capitalism might have to be worked out**, after we decipher how we could still be entangled in deflation despite what we learned from past experiences. We thought we knew it all and we do not. The **disruption from technology**, working wonders at accelerating returns, is happening so fast that it is tough to come to terms with it and fully grasp its many implications. For what is worth, also the industrial revolution took years to equate to growing productivity and wealth, while it went through its implementation phase. Industrial and aggregate productivity growth slowed down markedly in the years 1890 to 1913, as we moved towards the second industrial revolution ('electric dynamos were to be seen everywhere but in the productivity statistics': the modern productivity paradox, the case of the dynamo. Also interesting in this respect the 'regime transition thesis' of Freeman/Perez).

A **new evolutionary phase of combining QE, deficit spending, and 'helicopter money'** - the **nuclear fusion of monetary and fiscal policies – might well be the next stop for policymakers, as they move from price setting to direct resource allocation**, in certain markets more than others, in certain places sooner than in others, but **the road to that next stage is certain to be bumpy. Policy mistakes and market accidents are legitimate along the way**.

Japan: living laboratory for the Great Policy Experiment

One such place where experimental policymaking may be tested is Japan. Japan is likely to be the laboratory where new forms of crisis policymaking are implemented. If something finally works out, it may establish itself as the birthplace of a new monetary orthodoxy. What happens in Japan does not stay in Japan: if Japan succeeds other nations will follow.

For clues on what global policymaking might have looked like in the post-Lehman world one had to watch the US. After all, that was the epicenter of the earthquake. Today, Japan is likely to lead the way. It is the **pinnacle of desperation after 26-year long unfruitful attempts** at re-igniting growth and inflation.

There are a **few reasons** why Japan is desperate enough to be forced into pioneering innovative policymaking:

1. **Exhausted effectiveness of monetary printing/QQE**. Despite annually printing the equivalent of almost 800bn$ since mid-2013, and despite the monetary base having grown to be as large as in the US (a 3-fold economy), real GDP grew by less than 0.5% over the 3-years period, and actually contracted by 0.3% in the last year. Shockingly, money multiplier and velocity of money have been on free-falls and recently recorded new lows. Inflation was negative in April at -0.3%.
2. **Currency headwinds**. After clumsy cutting rates into negative territory, the JPY strengthened by approx. 10% against the US Dollar and the currencies of other trade partners, undoing a third of the currency devaluation so hardly conquered over the last 3 years. It will most likely impact GDP soon, pushing it into negative prints.
3. **Cash hoarding problem.** Amid negative rates and new tax regulation ('my number' national identification system), local households are stashing cash under the mattress, to the point where the BoJ is printing 1.2trn$ worth of 10,000 yen banknotes in fiscal 2016, a 17% increase year-on-year. A bigger demand for cash is itself deflationary, reflecting a higher propensity to save and pushing down the velocity of money.
4. **Political Capacity.** Political unity and scarce Central Bank independence make it possible to try new things out, forcefully. On the other hand, G7 recently rejected Abe's appeals at devaluing the JPY via unsterilized FX intervention, with intransigent US Secretary Lew dissuading him from indulging in currency manipulation. Japan can then only look inward at domestic policies, to still target the same objectives.

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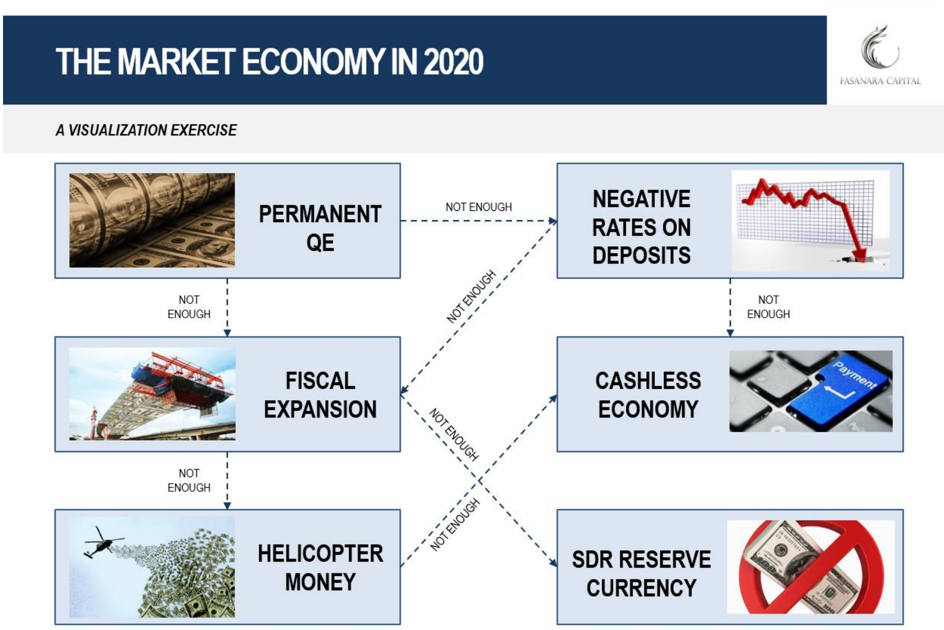
By definition, transformational markets are such that **nobody knows where we will end up from here**. A **reversion to the mean** of what the market economy looked like ten years ago may be desirable but not necessarily the most likely outcome. New economic paradigms (a new Keynes coming up? A new Friedman?), accidents along the way (deep deflation, hyperinflation, default events etc), political shifts (populist parties winning over, from the US down) may all have the upper hand at times and inflecting the course of events from there onwards.

Said that, this piece will try **to imagine the market economy as it may look like in 2020, a few years down the road,** as a **plausible scenario** if we are to progress from here at current rates. We assume that previous attempts at kicking-off GDP growth have continued to fail, and inflation did not spontaneously ascend, in none of the next few quarters, or at least not so in any meaningful fashion. Needless to say, it is not our intention here to work out a framework for global policymaking. We would rather like to **linearly interpolate the trend of what we observed thus far**, connecting the dots across different measures which are being attempted, and imagine an economy where such pieces fall into place in a coherent manner. Nor would we want to judge what is coming as 'appropriate' or 'wrong', but rather just assessing the chances of it taking place, as time goes by.

As we said, unless **inflation and growth** are resurrected, bad things happen from here. Crisis policymaking should then target two objectives:

1. **Currency debasement**: to reduce the value of debt vis-à-vis productive economy / income stream, to decrease debt ratios overhang
2. **Velocity of Money** and **Money Multiplier**: to boost private sector spending, for both businesses and households, and its impact on output

To get that, here below we discuss the **six main components of the market economy in 2020.**



Component 1: Permanent Quantitative Easing

Monetary printing failed to inflate away our debts, and its marginal effectiveness is both limited and further decreasing. However, that is not to say that it will likely be discontinued anytime soon. While failing to kick-off inflation (via the money multiplier and the velocity of money), **it continued to debase the currency all along. It served its purpose in the race to the bottom between currency debasement and structural global deflationary trends**. In the case of Japan, monetary base is already monumental and moved from being 60% of US monetary base in 2014 to 100% of it today, for an economy two thirds smaller. Soon enough, on this track at current rates, the BoJ will eventually own most JGBs out there, and will have to have the Government issue new ones just for the purposes of buying them over. The BoJ already owns approx. 50% of all eligible equity ETFs in Japan (as it has been busy buying 30bn$+ a year), but that masks the fact that there are only approx. 150bn$ equivalent worth of eligible equity ETFs in Japan (out of a total ETF industry of 461bn$ eq). So clearly the ETFs industry can grow to satisfy a craving Central Bank, and also help fill the coffers of the pensions and insurances industry (by then crowded out of JGBs for most). There is room for ETF expansion as Tokyo's Stock Exchange total market cap is approx 4.9trn$ at almost 120% of GDP.

But monetary policy alone is not enough. There are a few limitations with it:

i. **Failure of the transmission channel.** The Central Bank gives money to commercial banks but they do not do much lending to the real economy, as banks are burdened by legacy non-performing loans and capital constraints. Also, in a deflationary economy, **demand for loans is anemic.** Keynes once wrote "you can lead a horse to water but you can't make him drink". The lack of positive real expected returns anywhere in the economy dampens new investments by Corporates in hiring plans, plant & machinery, and related borrowing and credit formation with it.

ii. **Running into evident capacity issues**. Quantitative easing means buying bonds, but at some point there may not be enough bonds out there. Also, removing bonds from the market negatively impacts the liquidity of the market itself, counterproductively. Look at Europe, where liquidity on corporate bonds is now dreadful, and where a chunk of bonds now trade at yields to maturity below -40bps, levels where the ECB cannot use them for QE purposes. True, you can change rules or issue more bonds, but then the marginal effectiveness runs asymptotically close to zero (while still having some use for currency debasement purposes).

iii. **Redistribution issues and income inequality.** The typical ultimate beneficiary of QE flows is not the most inclined to spend and invest, which would instead be small uprising businesses and lower income households.

iv. **Wealth effect of QE runs dry**, as bonds cannot rally as much after yields went negative, and P/Es on equity are so stretched that further multiple expansion is arduous. So far so good for savers, after all, as they did in capital gains what is no longer available in 'carry' (coupon clipping on new issues and dividend yields on stocks). Indeed, for example, US equities total returned 12%+ annualized in last 6 years, while bonds total returned 6%+ per annum over the period, both above historical averages. From here on, however, capital gains and carry will both likely be zero-ish, when not negative, on augmented volatility (read uncertainty), not allowing much for financial planning, making wealth effect a thing of the past.

Component 2: Deeply Negative Interest Rates On Deposits

We have seen negative rates across the globe in small economies - Switzerland, Denmark, Sweden - and large ones - Japan, Germany, ECB. **They were imagined for different purposes**, ranging from preventing the currency from appreciating, to de-incentivizing cash hoarding for banks while forcing them to lend to the real economy, to show markets that Central Banks are not out-of-bullets at the zero-bound on interest rates, or all of the above. **All issues remain valid still and therefore one may assume negative rates are here to stay, and perhaps become more negative**.

Anecdotal evidence in validation of the trend: Central Bankers recently spoke in defense of negative rates, despite a chorus of protests from economic agents and market participants. Bankers claim the counterfactual is not available, thus, keep going.

Component 3: Cashless Economy

A cashless society is no more science fiction than QE or NIRP policies, much as we have never seen them either before in modern history. It is rather a **consequence and a necessary complement** of them both.

In 1933, the **Executive Order 6102** was issued by Roosevelt to **forbid gold hoarding**, as it was believed to make the depression worse by stalling economic growth. Hoarding of Gold was blamed for constraining the money supply over and beyond the desiderata of the Central Banks. All safe deposit boxes in the county were seized and searched for Gold. Money supply is somewhat already constrained today by hoarding of cash by banks, households and businesses, and would be so exponentially more if negative rates were passed onto depositors (a bit of which is happening already in Switzerland and elsewhere), leading to substitution of cash in the bank accounts with banknotes under the mattress. **Similar issues, similar remedies: a modern version Executive Order may one day be imagined for banning the possession of cash**.

There are **few reasons for cash to be discontinued** and replaced by digital transactions alone.

a. **Banks cannot cover the cost of negative rates forever**. So far, banks expensed the cost of parking cash at the ECB, instead of transferring such costs to depositors. At some point though they must do so, which would also potentially push depositors into spending, thus spurring inflation. When depositors are applied negative rates they may likely move the cash out of the banks into bank safety boxes (beyond certain breakeven costs, here is Bernanke's attempt at estimating them) or straight under the mattress. **Cash hoarding would itself be deflationary and self-defeating, let alone leading to possible bank runs and serial defaults**. To avoid that a cashless economy may have to be imagined.

b. Incidentally, **a cashless economy would help ease the opposition of inflation averse actors (think Germany) against fiscal and monetary expansion**, by arguing that better control is exerted on inflation risks down the line. While traditional monetary policy impacts the quantity of money but not so directly the velocity of money, a cashless economy can claim to better handle both. **In a cashless economy, the Central Bank is more in control over not only the quantity but also the velocity of money, therefore more able to stem hyperinflation right away in its birthplace, should it ever arise**.

c. Finally, **a cashless economy may eventually occur anyway, even if inflation indeed resurrect at some point on its own**. Moving cash around is inefficient and ineffective. Already today close to 70%/80% of transactions in developed countries are effected without cash. Our kids will likely never visit a branch. **Fintech** may just be an unstoppable trend in this respect (in the same vein, forbidding cash may go hand in hand with trying to contain the diffusion of Bitcoin and other unregulated means of payments outside of the system).

Capital controls. Other forms of capital controls are needed if a country is to mitigate the risk of bank runs and disorderly currency devaluations. Unless all countries were to implement the same measures at the same time which is utopia.

Anecdotal evidence in validation of the trend: it may then come as no coincidence that the ECB discontinued production of 500 EUR banknotes, while Larry Summers in the US discusses the case for discontinuing the 100$ bill. In Switzerland, 1,000 CHF notes represent a huge 62% of the banknotes in circulation, evidently used already by many to stash cash out of banks. In the same vein, a Mckinsey research Mckinsey research is also readily available to 'prove' that cash in the economy drags down GDP for a heavy -0.5% every year in Europe and the US. Denmark, Norway and Sweden already use cash for just 6% of payment made (vis-à-vis 47% in the US). The IMF thinks along similar lines.

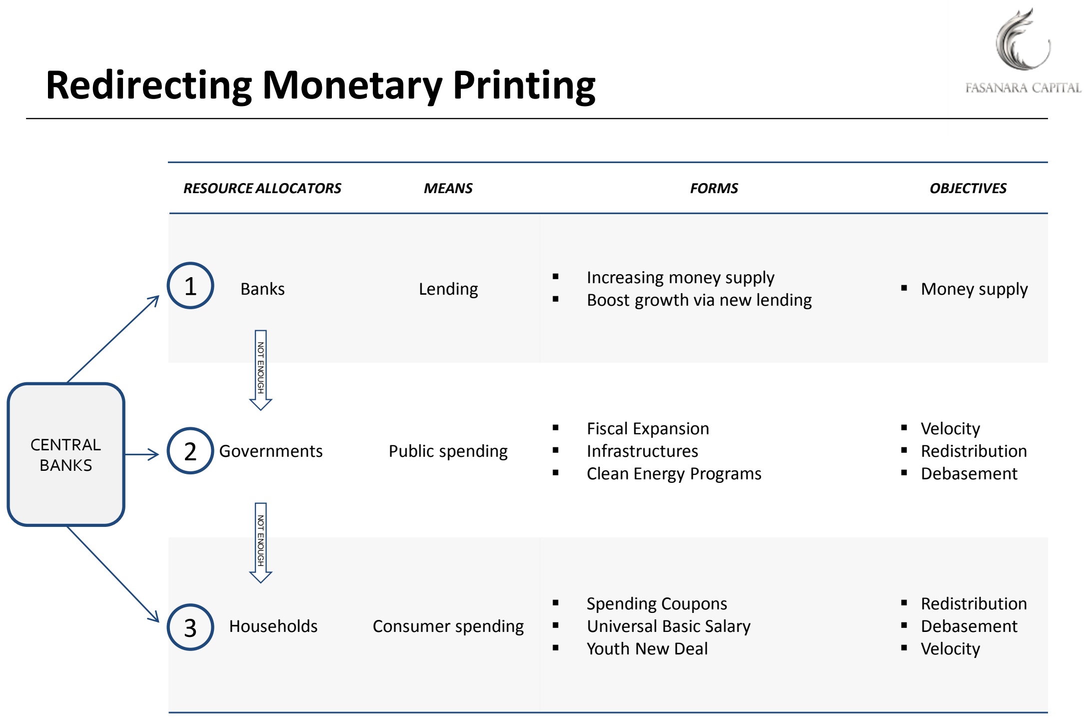
Component 4: Fiscal Expansion, Deficit Monetization

If flooding banks with liquidity did not help, government may eventually assume the role of resource allocator, through public spending financed by a permanent increase in the money stock (Component 4). If government spending does not help either, then helicopter money might, which is to allocate resources directly into the pockets of households, via tax cuts or negative taxes.

Both Quantitative Easing and negative interest rates policies (NIRP) alone have turned out to be deflationary.

1. **QE led to banks hoarding cash**, resulting in a reduced impact on money supply, and becoming capital destructive at negative rates. **QE also led to oversupply in most commodities** on the planet, the workout of which ends up being deflationary. **QE finally contributed to greater income inequality and discontent**.
2. At the last press conference Draghi says that if you want higher rates in the future you need to have lower rates now. That may be true in theory but the theory is compromised by collateral effects and incoming anecdotal evidence. **Negative rates lead to banknotes hoarding (it just started in Japan, Switzerland) which contracts money supply: a smaller propensity to invest as uncertainties about the future grow, with fears of expropriation/bail-in/wealth tax, right at a time of lower inflation expectations and prospective returns**.

Fiscal expansion may help, when coupled with monetary printing. Public spending in infrastructure, clean energy to cope with global warming, technologies, education are obvious candidates.



Component 5: Helicopter Money

The concept of helicopter money refers to a Milton Friedman's thought experiment of 1969.

If there are negative rates why cannot there be negative taxes? So far in this list of policy tools, **negative rates are synonyms of wealth tax, and bail-ins in disguise**. As such, **intrinsically deflationary**. Which means **self-defeating**, as the whole point is to resurrect inflation in a moribund economy overloaded with too much nominal debt. But **negative rates may become pure incentive to spending, and boost the velocity of money, if and when coupled with various forms of tax cuts, both temporary and permanent ones: raising minimum salaries, temporary / depletable spending coupons**.

Negative short rates but also negative taxes. It may sound far-fetched to think of negative taxes but after all banks in Europe, for example, are themselves paid to lend. The 0.40% subsidy the ECB pays follows a similar mechanism, an incentive for meeting certain criteria in line with macro policy goals.

Some of the traits of this form of fiscal expansion may be inspired by **Roosevelt's New Deal**, a series of government programs implemented between 1933 and 1938 to provide relief to people suffering during the Great Depression. This policy activism may lead to a **temporary suspension of laissez-faire capitalism**.

Incidentally, if indeed secular deflationary trends plant their roots in technological disruptions leading to energy abundance, commodities oversupply, labor over-supply, then such centrally-planned economy may be a realistic outcome. **What if the labor participation rate in the unfolding digital economy is 40%, instead of 70%?** Will full employment still be a policy target at all? If democracy is to stay as the political framework we operate within, it might have to be paid for, via increased welfare / wealth transfers to the progressively larger swaths of the population remaining unproductive.

The recent referendum in Switzerland saw a landslide vote against the idea of a Universal Basic Income. The prospect of people free-riding the system is surely too much a collateral effect to bear. On the other hand, Finland, Holland and the UK are analyzing similar mechanisms. A future referendum in other countries, more deflation-trapped, more debt-burdened, more youth unemployment-heavy may see a different turnout.

Component 6: De-Dollarization and IMF's SDR Reserve Digital Currency

This step arrives last, as it requires global coordination. As Claudio Borio and Sheng/Geng remind us, **in a zero interest rates environment, a strong Dollar plays the same deflationary role in global markets as the Gold standard did in the 30's**. Any global reflation would normally have to pass by an increasing current account deficit in the reserve currency, the US, thus enlarging liquidity across the globe. But the US may be unwilling or unable to provide for that, owing to, amongst other things (i) lower propensity to invest by US households and businesses and (ii) disconnect of their business cycle due to their supremacy in technology. Sheng/Geng speak of one possible way of dealing with it: National Central Banks could increase their SDR allocations at the IMF (thus expanding their balance sheets in the process, which accounts for more QE), who would then play the role of resource allocator and invest in member countries. Investments may include supra-national projects for the greater good of all: for instance, an estimated 6trn$ is needed annually over the next 15 years to address global warming, while an estimated additional 7.1trn$ is necessary for global growth to sputter back to life. Incidentally, shifting reserve currency regime and **investing in SDRs achieves a dual mandate of Quantitative Easing and Fiscal Expansion** on social impact and growth-enhancing projects. Also, **it takes the utility function away from mere US domestic needs**, at a time in which there is disconnect between what serves the interest of the US and what matters to the rest of the world. Europe has similar issues between Germany and the rest of the Union, which the EU could not address as yet: a supra-national body may attempt at that again, with or without the EUR. Needless to say, such policy coordination may well be utopist and far-fetched; however, the US Dollar plays his current role only given global coordination at Bretton Woods in 1944, so no much reason to believe this is an eternal fact of life either.

Anecdotal evidence in validation of the trend: China and Russia have often spoken in favor of a de-dollarization of the global economy. Not long ago, China has also specifically referred to Keynes' proposal for a common accounting unit, the Bancor, dismissed at the Bretton Wood conference. Academic studies are also growingly looking at revisiting the subject given today's monetary malaise and the impact of fluctuations of the dominant reserve currency on international imbalances, booms/busts cycles.

In a nutshell ..

To recap, the Central Bank keeps going with monetary printing and **permanent quantitative easing**, so to debase the currency faster than the speed at which deflation increases the real burden of debts in the economy. The Government engages in **large-scale fiscal spending programs**, monetized by the Central Banks through a permanent increase in the money stock, which further balloons its balance sheet. The impact on the real economy is more direct, disintermediating banks as the transmission channel failed there. Income is redistributed, which may also spur more growth. The Government implements **tax cuts, negative taxes, temporary spending coupons, permanent minimum salaries**, so to re-allocate resources directly to households and forcefully reset inflation expectations. Against this backdrop, there are **negative rates on deposits**, so to penalize cash hoarding and incentivize spending, and a **cashless economy**, so to prevent banknotes hoarding / bank runs and have more grip over inflationary spirals. Sometimes later, a **new reserve currency** emerges in the form of IMF's SDRs, which may one day compete with the US Dollar in dominant reserve currency status.

For the avoidance of doubt, for all intents and purposes, **inflation / currency debasement is default by another name**. Inflation curtails the value of fixed income claims as much as default, at a time where there is too much debt for too little growth. However, it may be seen as a more politically palatable course of actions than going through outright defaults. It is a rising tide that lifts all boats. Big losers are the banks, and creditors in general. But at least the interest curve steepens back up, inflation expectations reset, rates rise without defaults, business gets unclogged and starts all over again. Banks get re-capitalized once, from zero, as opposed to multiple times in small increments out of negative profitability over a decade long period. **The economy may then spring back to life, inflation and growth may resurrect.**

As Alessandro Manzoni once wrote: 'logical thinking was not dead, it was hiding, afraid of common sense'.

We will discuss investment implications in a different write-up.

Francesco Filia

CEO & CIO of Fasanara Capital ltd