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The New Deal or 'Old Deal'?

On if there is going to be the next economic stimulus:

"There is no first attack in Karate"

-Gichin Funakoshi, founder of Karate-

3Q 2020

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Heyokha's deals

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The New Deal or 'Old Deal'?

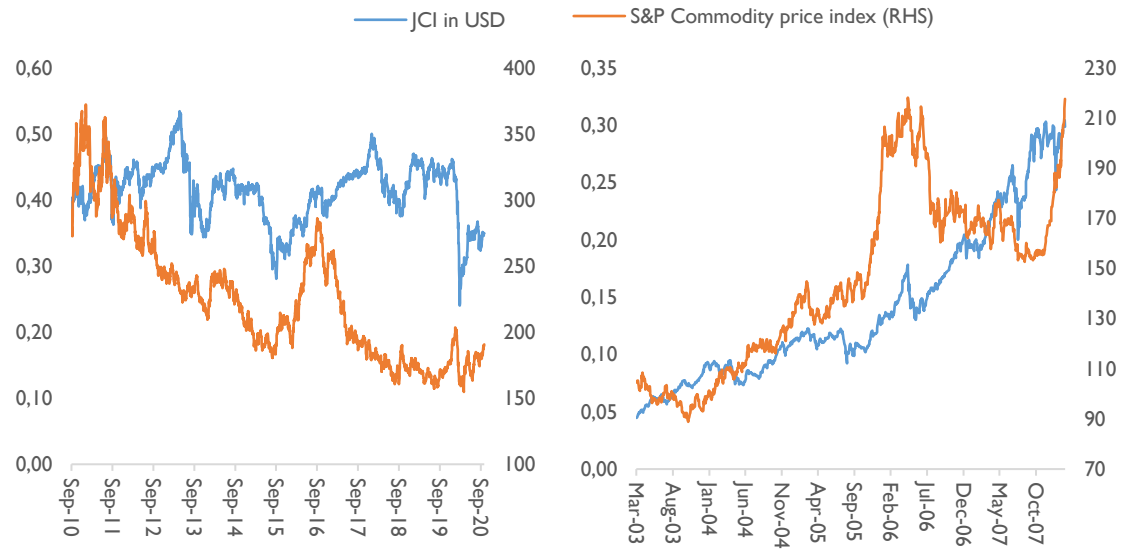
Governments across the globe are spending massive amounts of money to save lives, support the vulnerable, and prevent a collapse of their economies. Yet, more needs to be done to tackle soaring poverty, unemployment, inequality, and to boost economic recovery.

As mentioned in our earlier report, calls for exceptional levels of fiscal spending come at a time when public debt levels are already at record-highs and this development is likely to hurt the real purchasing power of paper currency. In this report, we focus on the destination of such government spending and how investors can benefit.

For example, based on historic precedents – such as the U.S. New Deal of the 1930's - we believe that governments will likely spur public investments in not only traditional infrastructure but also digital infrastructure and green technologies. We think metals will benefit from this trend. Nickel, especially, could enjoy a surge in demand given that this metal is not only used in infrastructure construction, but also in the production of batteries used in electric vehicles.

JCI Index in USD has been flattish in the last decade, dragged by the declining commodity price. With expectation of rising commodity prices, JCI's decade underperformance could reverse

JCI Index in USD vs. S&P commodity price index (RHS) between 2003-2008 and 2010-2020



Source: Bloomberg

But it is not just metal prices that are expected to increase. Also, prices of soft commodities may rise further due to inflation and to disruptions in supply caused by climate change and hoarding. A rise in commodity prices across the board could provide a big tailwind for commodity exporters such as Indonesia. Perhaps the long period of Indonesia's underperformance is coming close to an end.

"If a free society cannot help the many who are poor, it cannot save the few who are rich."

-John F. Kennedy-

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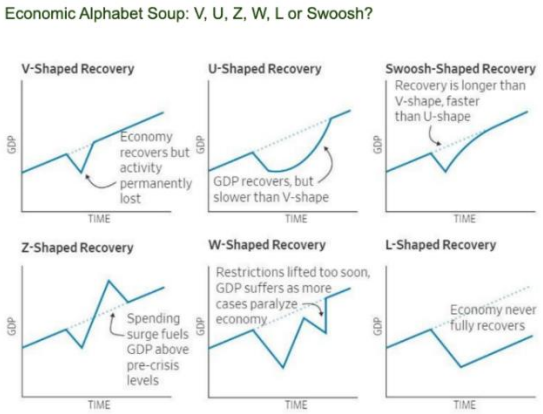
Dealing with the wrong side of the "K"

Impact of COVID-19 and subsequent economic recovery has been uneven

Many have pondered the potential shape of economic recovery following the outbreak of the pandemic. We have heard "U", "V", "L", "W", and "Nike swoosh". More recently, the letter "K" has emerged as the leading contender.



Source: Brookes Institute

The letter "K" well captures the uneven economic recovery across different countries, sectors, industries, and groups of people since the peak of the Covid-19 fear. The angled upward line of the letter represents those that have recovered faster from the pandemic, while the angled downward line represents the less fortunate.

Differences among nations - Quoting the Economist and OECD forecast, America's economy will be the same size as it was in 2019 but China's economy will be 10% larger.

Stock market in countries with higher GDP/capita outperform in emerging Asia

Countries with higher GDP/capita: China, Korea, Taiwan and Malaysia vs. Countries with lower GDP/capita: Indonesia, India, Philippines, and Thailand

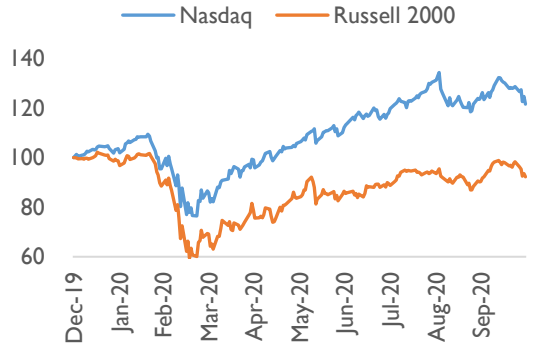
Source: Bloomberg

In the meantime, Europe and Japan will still languish beneath their pre-Covid level of output and it could last for several years. The variance in the rate of recovery depends not only on how various governments handled the pandemic but also on the industries that drive their economies.

Differences among industries - Service sectors reliant on face-to-face interactions—particularly wholesale and retail trade, hospitality, and arts and (offline) entertainment—have seen larger contractions than manufacturing. With China having managed the pandemic well and having a manufacturing heavy economy, it is recovering better than the U.S. which responded late to the virus and has a service heavy economy.

Tech stocks outperform the traditional business

Nasdaq vs. Russell 2000 index return YTD



Source: Bloomberg

Some sectors even benefitted from the pandemic, such as online/technology companies, biotech and pharmaceuticals, grocery retailers, some consumer companies, online stockbroking, and online entertainment providers.

Smaller vs larger companies - Small and medium enterprises (SMEs) suffered disproportionately more than bigger ones. These firms typically are more vulnerable than their larger counterparts, reflecting their limited buffers and access to credit. Besides, SMEs are most prevalent among the hardest-hit sectors, such as restaurants, hotels, and arts and entertainment.

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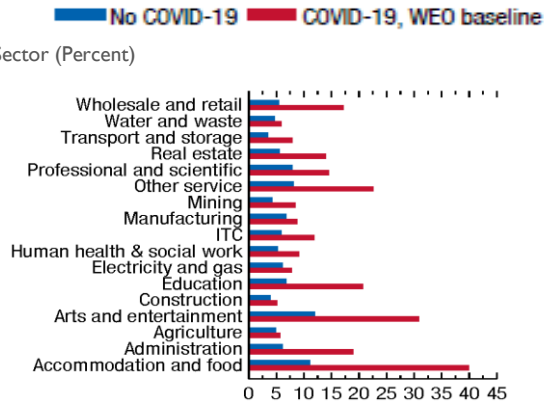
Large share of SME jobs is at risk caused by illiquidity

Share of SME Jobs at Risk Due to Illiquidity, by Scenario and Sector (Percent)



The bars measure the share of SME jobs at risk due to firms facing a liquidity gap or negative equity under a scenario without COVID-19 in 2020 (blue bars) and with COVID-19 using the WEO baseline projections at the country level (red bars).

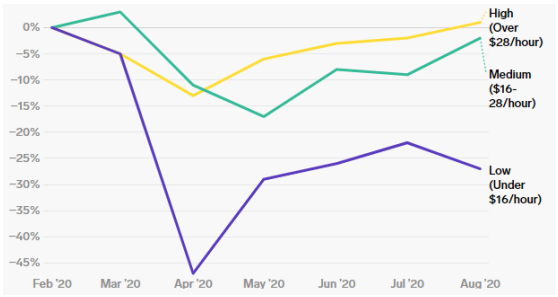
Source: Orbis; World Economic Outlook Report

The vulnerability of SMEs is also illustrated in a recent survey by the United Nations Industrial Development Organization (UNIDO), which suggests that 60% of small businesses in Indonesia might only survive six months if the pandemic restrictions were still in place.

Lower- vs higher income households - Upper-income households are experiencing a rapid and strong recovery, while those with lower incomes – and often lower levels of education - keep losing ground. Going forward, this trend is likely to accelerate.

US employment in the low wages is rather sluggish compare to the medium and high wages jobs

Change in employment by wages, cumulative percent change since February 2020



Source: Evercorse ISI, Business Insider

With the work-from-home trend emerging as a more permanent feature, lower-paid workers who previously toiled as office cleaners. In places like Indonesia, many people have no choice but to leave Jakarta and go back to their hometown or village.

The uneven impact and recovery are increasing poverty and inequality

Due to the pandemic, we are witnessing the potential decimation of the lower-middle class, and the money printing globally is accelerating the K.

According to the IMF, poverty is increasing, and inequality is also set to increase because the crisis has disproportionately affected women, the informally employed, and those with relatively lower educational attainment.

Most local favorite restaurants in Surabaya are very quiet, some just do not even bother to open

More specifically, the World Bank estimates[1] that COVID-19 will add as many as 150 million extreme poor by 2021 - the first increase in over 20 years. About 82% of the new poor is will be in middle-income countries, the bank estimates.

Increasing poverty is also felt in advanced economies. Already, the Salvation Army in the U.S. expects to serve up to 155% more people with Christmas assistance this year, including putting food on the table, paying bills and providing shelter[2].

At the same time, Quantitative Easing by central banks led to a quick recovery of financial assets, disproportionally benefitting the "rich". In a world whereby growth is lacklustre, QE in the post-GFC world has led to an explosion in equity valuations for growth/tech companies.

In other words, the investor class prospered while the vast majority of the people saw their income stagnating, along with the state of the real economy.

To prevent social unrest, governments will need to respond to appease the wrong side of the "K"

As discussed in our earlier reports, inequality was already increasing to problematic levels in many parts of the world. The uneven impact and subsequent recovery from the pandemic are exacerbating these pre-existing trends. Without sufficient help for the poor, this will translate into even wider political divides, as clearly visible globally already.

We dare say that without the right response by governments, what we have seen in terms of global turmoil may look like a walk in the park, as those on the wrong side of the "K" will get more restless and angry. After all, history is full of precedents in which governments failing to take care of the poor get overthrown.

The good thing is that this also gives us historic examples of how governments have successfully dealt with such issues. In the next section we look at the policy successes of the 1930s following the Great depression. We are confident that these may inspire policy makers today.

"We're not going back to the same economy, We're recovering, but to a different economy and it will be one that is more leveraged to technology, and I worry that it's going to make it even more difficult than it was for many workers……"

"The main takeaway from me is that even after the unemployment rate goes down and there is a vaccine, there is going to be probably a substantial group of workers who are going to need support as they find their way in a post-pandemic economy because it's going to be different in some fundamental ways"

-Jerome Powell, Federal Reserve Chairman-

[1]https://www.worldbank.org/en/news/press-release/2020/10/07/covid-19-to-add-as-many-as-150-million-extreme-poor-by-2021
[2]https://apnews.com/press-release/pr-newswire/lifestyle-business-shopping-dj-khaled-social-affairs-87f31df34dfd58463db4969f3cd0c109

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The current market cycle is similar with the 1930s; the success of past policy to take care of the "K" inspires to boost public spending, and in particular infrastructure construction

Today's cycle is like that of the 1930s

Our readers know we have taken heed to Ray Dalio's "three big issues" and the analogue to the late 1930s that he observed. Before the Corona virus hit us, Ray has put forward that the most important forces that now exist – and which last happened in the late 1930s - are:

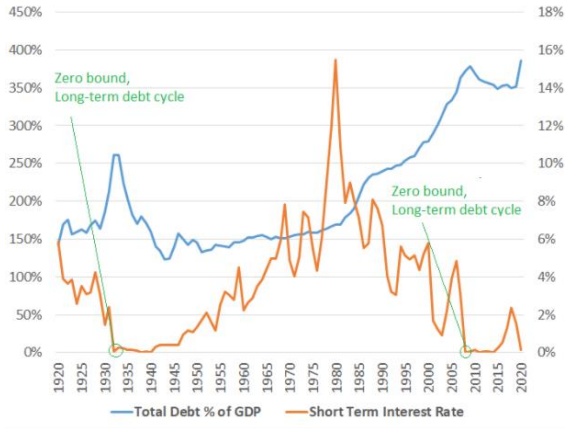
1) The end of the long-term debt cycle (when central banks are no longer effective)

2) The large wealth gap and political polarity

3) A rising world power (China) challenging an existing world power (The U.S.)

The current debt level and interest rate are in the same cycle as in 1930s

Total Debt as % of GDP vs. Short term interest rate



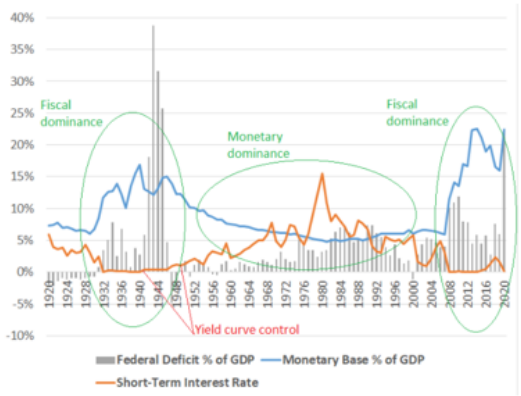
Source: US Treasury Department, Federal Reserve, Lynalden.com

Then the virus came along, kicking it up a notch. Not only turning down the economy, but also further increasing our indebtedness, adding to the gaps between the have's and the have not's, and thereby further increasing the political divide.

The parallel with the 1930s is that it was also a time characterised by record levels of debt, rising inequality, unemployment, populism, and conflicts between the rising countries of Germany, Italy and Japan, and the established countries of the UK, France, and China.

A century of US monetary and fiscal policy

Federal deficit as % of GDP, Monetary base as % of GDP, and short-term interest rate



Source: US Treasury Department, Federal Reserve, Lynalden.com

What followed was a period of massive deficit spending, money printing and currency devaluation. As you can see in the chart below, when interest rates hit 0%, fiscal spending takes over.

As Lyn Alden puts it, the "endgame" for the current high-debt environment will likely involve a combination of high fiscal deficit spending (monetized by central banks), cash and Treasury yields held persistently below the prevailing inflation rate, a trend shift from disinflation to inflation, and subsequently a period of currency devaluation.

In the 1930s, President Roosevelt's "New Deal" was followed by a remarkable economic recovery

What inspires many is the turning point of the U.S. economy following the Great Depression. Shortly after Franklin Roosevelt's inauguration, consumers and businesses started to spend again. As a result, tremendous progress was made toward recovery in the mid-1930s.

For instance, real GDP had increased by more than 40 percent between 1933 and 1937. Also, unemployment was reduced from 25% to 14% in the same period - still a large percentage, but a vast improvement.

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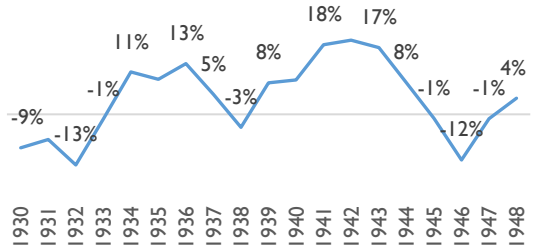
So how did this happen? This is attributed to Roosevelt's "New Deal", an alphabet soup of reforms and public-spending initiatives – including infrastructure construction. The New Deal did not only help the US economy to re-accelerate but it also narrowed the wealth gap.

As such, the New Deal is a great example of how fiscal measures can bring an economy out of a recession.

US GDP saw rapid growth acceleration during and after the 'New Deal'

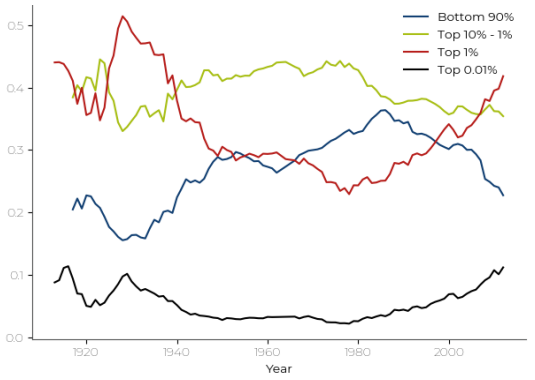
US Real GDP growth YoY



Source: St Fed Louis

Wealth gap also narrowed significantly during and after the 'New Deal'

Share of total net household wealth



Source: Bloomberg

The New Deal involved a dramatic increase in public spending, particularly in infrastructure construction

The New Deal comprised direct relief (cash transfers), business support (injecting liquidity to banks), work relief (job creation through infrastructure spending), and dollar devaluation against gold price.

These actions sound very familiar to the current stimulus bills such as CARES Act, which provide stimulus check of US$ 1,200 for every adult American; and government loan guaranteed program such as Main Street Lending Program and Paycheck Protection Program (see appendix for a detailed comparison).

According to a study by economist Price Fishback and Valentina Kachanovskaya, The New Deal cost about US$ 41.7 billion during 1933-1939 (The annual spending of the New Deal was about 7.5% of GDP).

Increased taxes and currency devaluations funded the New Deal and reduced inequality.

The new deal was funded through devaluing the currency and raising more taxes

Currency devaluation - One month after Roosevelt announced gold confiscation by the US Treasury, the US government devalued US dollar by raising gold price from US$ 20.67/oz to US$ 35/oz. This increased US gold treasury holding by US$ 3.5 billion which helped to fund The New Deal.

Wealth Tax - After the "New Deal" launched in 1933, the federal government issued new Revenue Acts in almost every consecutive year. The tax escalation was aiming at wealthy individuals and major corporates. As such, the federal tax revenue to GDP nearly doubled during the New Deal.

List of Revenue Acts issued in financing the new deal:

a) Revenue Act 1934 raised income taxes on the wealthy and reduced them for lower-income groups; it also raised estate taxes on the wealthy and closed corporate tax loopholes

b) Revenue Act of 1935, sometimes called the "Wealth Tax Act," raised taxes on the wealthy again: "The top rate jumped from 59 per cent to 75 percent on incomes over $1 million"; it "placed graduated net income taxes on corporations and a tax on incorporated dividends"; and it once again raised estate taxes.

c) Revenue Act of 1936 taxed undistributed corporate profits

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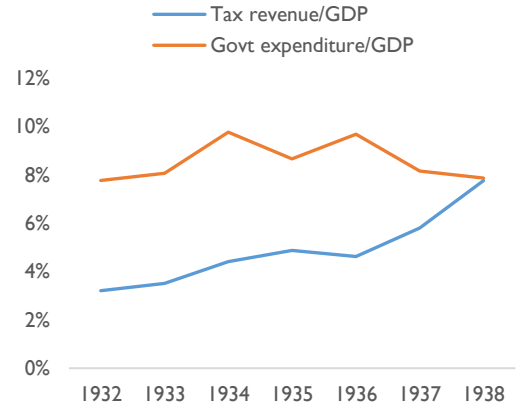
d) Revenue Act of 1937 aimed to clamp down on corporate tax avoidance.

e) Revenue Act of 1940 – by which time national defence spending was ramping up – raised taxes on corporations by 1%; increased taxes on incomes between $6,000 and $100,000; and lowered personal exemptions by 20%, thereby broadening the tax base

With these Revenue Acts, the US federal government successfully narrowed its budget deficit and even managed to fully fund the "New Deal" for 1938.

Aggressive wealth tax has helped in narrowing the deficit

US tax revenue and government expenditure as % of GDP



Source: St. Fed Louis

With the current US fiscal deficits ballooning, public debt to GDP at the record rich, and worrying levels of inequality, it would be no surprise to us if wealth tax would be re-imposed.

For instance, US democrats such as Bernie Sanders and Elizabeth Warren have sounded the intention to re-introduce wealth tax.

As history often rhymes, we trust governments across the globe will enact many New-Deal-inspired policies – including infrastructure construction, deficit spending and debt monetisation.

With such positive outcomes, we believe politicians may try to emulate parts of Roosevelt's 'New Deal' to recover from the COVID-19 crisis.

For instance, Boris Johson already pledged a "New Deal" for the UK which will put jobs and infrastructure at the centre of the government's economic growth with a commitment to "build, build, build". We expect more countries to follow a similar path.

All wish to be learned but no one is willing to pay the price.

-Juvenal-

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Covid-19: the catalyst for a global surge in infrastructure construction

Various governments across the globe are boosting fiscal spending

Governments took massive action. According to the Fiscal Monitor of the IMF, The COVID-19 pandemic and associated lockdowns have prompted unprecedented fiscal actions that amounted to $11.7 trillion, or close to 12 per cent of global GDP, as of September 11, 2020.

Yet, as is clear from the previous section, still more needs to be done. In dealing with current issues at play, governments will need to design policies that create jobs, boost economic activity, and facilitate the transformation to more inclusive, and greener economies.

When looking at recent announcements it seems governments are looking to tackle this through colossal infrastructure spending. We list some plans by selected countries below. Many governments announced generous public investment plans in support of recovery

Canada: announced a program comprising C$ 10 billion (US$ 7.5 billion) infrastructure stimulus. The three-year plan is aiming to boost renewable energy initiatives, create jobs and recover from the economic downturn. It is expected to create 60,000 jobs across the country.

United Kingdom: unveiled a GBP 5 billion infrastructure stimulus plan to soften the economic impact of coronavirus with a promise to "build, build, build".

In addition, GBP 100 billion green infrastructure spending also could be spent earlier than planned. The UK government has urged local authorities to submit "shovel-ready" infrastructure ideas to help boost the economy.

France: unveiled a stimulus package promising to invest EUR 100bn over the next two years. EUR 30bn has been earmarked to support the clean energy transition and EUR 15bn will be targeted at boosting innovation and relocation of "strategic technology". These green infrastructure initiatives are expected to create 160,000 jobs by next year.

Germany: unveiled a EUR 50 billion stimulus plan aimed at developing green infrastructure such as solar- and wind power. The stimulus also comprises EUR 3-5 billion investments in AI projects such as in the development of supercomputers and two quantum computers.

China: unveiled a RMB 4.75tn (US$ 667bn, % of GDP) infrastructure stimulus plan in 2020. This amount is larger than the US$ 564bn stimulus package launched following the 2008 GFC. The budget is to be spent on similar projects as China splurged on following the GFC: roads, airports, and railways.

Note that the above-mentioned plan of China is in addition to China's prior existing New Infrastructure spending plan of RMB 17.5tn (US$ 2.47tn) for 2020-2025. This New Infrastructure plan includes building next-generation information networks, 5G applications and charging facilities for new energy vehicles.

New urbanisation captures the upgrade of public facilities, including renovation of 39,000 old urban residential communities and installation of elevators in residential buildings. Big spending projects include improved water conservation and transport, with Rmb100bn earmarked for national railways.

No matter who wins the presidential election in the U.S., expect colossal fiscal spending on infrastructure

While we are writing this report, the counting of the election ballots in the U.S. is still ongoing. Yet, both candidates have announced plans for major public spending initiatives.

Biden: In November of last year, the Biden campaign released an initial $1.3 trillion infrastructure proposal. This summer, he upped the proposal's numbers to $2 trillion. It would, as the Wall Street Journal described it, "use climate policy as an economic-development tool over a framework of four years."

This climate policy-infused infrastructure package Biden is proposing, he says, would eliminate carbon emissions from the national power grid by 2035 and greatly expand the availability and use of electric vehicles and electric mass transit – all of which would create markets for new infrastructure spending. It would also include hundreds of billions

of dollars to repair existing roads, bridges and other infrastructure.

The clean energy infrastructure push is a major part of his larger proposed economic agenda, which also includes a $400 billion Buy America procurement budget.

That would mean materials purchased for federally funded projects would come exclusively from domestic sources, guaranteeing the economic activity generated by that spending would remain stateside, and also ensure that the spending would be far more likely to directly benefit American workers.

"The irony is that Joe Biden's own plan contains key elements Mr. Trump promised in 2016...The logic of Bidenomics is simple. The cost of borrowing is free. The U.S. is in the midst of a national crisis. Its infrastructure is no longer first world, and unemployment is at a generational high.

It seems like a good moment to enter the 21st century with the 'largest mobilisation of public investments' since the Second World War, as the Biden campaign puts it."

-'*Bidenomics and the new New Deal*' by Edward Luce, the Financial Times chief US commentator, and columnist-

Trump: When the economy shuttered and Congress considered an emergency relief bill to help the millions of suddenly unemployed across the country, the president tweeted that it was again time for a $2 trillion infrastructure bill. "VERY BIG & BOLD," he said, using caps to show he meant business. Then, this summer, the White House suggested it was about to put forward a $1 trillion infrastructure bill …

Deficient infrastructure and historic successes of infrastructure projects make a compelling case

Need for infra improvement is acute - the U.S. federal infrastructure spending relative to GDP has been falling by more than 50% over the last four decades. According to the American Society of Civil Engineers' 2017 Infrastructure Report Card, which is published every four years, US infrastructure gets a D+ grade.

The ASCE estimates the U.S. needs to spend some $4.5 trillion by 2025 to improve the state of the country's roads, bridges, dams, airports, schools, and more. How this deficient infrastructure has cost the US trillions in foregone GDP is already well documented. And the U.S is not alone in this.

Climate change calls for green infra - the climate change challenge justifies massive infrastructure spending, too. The OECD estimates that US$6.9tn will need to be spent annually through 2030 on sustainable infrastructure for the catastrophic climate change to reverse.

Empirical evidence is in favour - The economics of infrastructure spending is compelling. According to the Economic Policy Institute, for every US$100bn spent on infrastructure, one million jobs are being created.

In addition, according to the Business Roundtable, every dollar spent on infrastructure returns approximately $3.70 in additional economic growth over 20 years.

A recent example is of how China's COVID-driven infrastructure stimulus boosted the nation's industrial output growth by 5.6% YoY in August 2020. With an urgent need to create jobs, it is reasonable to expect the world to copy-paste the playbook.

Infrastructure in China (left) vs. US (right). Beijing Daxing Airport vs. JFK Airport (top) and Chinese bullet train vs. Amtrak train (bottom). There is obvious gap which the US may want to catch up
Source: Xinhua.net, NYCtourist.com, freightwaves.com

Big ambitious projects can serve as a symbol of change and keep governments in power - As discussed before, playbooks in favour of massive infrastructure construction can be found in the New Deal proposed by U.S. President Roosevelt in the 1930s. Another (contentious) project attributed to a remarkable economic recovery is the construction of the German Autobahn during the reign of the Nazi's.

However, in both cases the *direct* contribution of fiscal stimuli to those remarkable recoveries has been debated. What is agreed on, though, is that these big and bold policy changes were dramatic enough to change the people's expectations about prospects.

And as shown often in the past, a little hope can be enough to kickstart a recovery – and keep governments in power (see appendix for more detailed coverage on how the Autobahn construction helped Hitler rise to power). As such, we believe there will be no absence of "VERY BIG & BOLD" infrastructure initiatives.

This is the right time - As written earlier, the post-COVID-19 world needs to create jobs, arresting or even reversing climate change, and it needs a transformational technology like the invention of electricity transmission. Investment in infrastructure seems to be the best avenue to hit all three targets.

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Transformational infrastructure in China: High-speed railway network and smart infrastructure

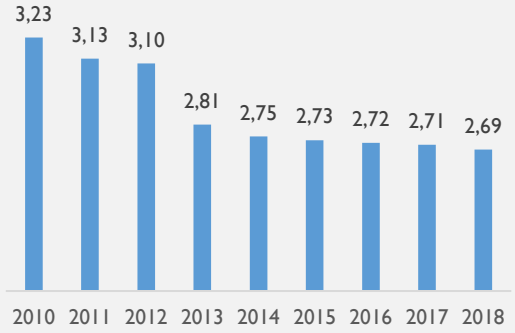
China's high-speed railway network is considered to be one of the most transformational infrastructures in the country. This infrastructure is acknowledged as being the most effective means of transportation in China for short-medium distance travelling.

High-speed rail reduces costs, promotes employment, and subsequently stimulates regional economic growth. Also, it is more environmentally friendly as compared to cars and aeroplanes.

High-speed rail facilitates communication and cooperation among enterprises, accelerates the flow of actors such as capital and technology, and reduces information asymmetry, all of which are conducive to improving the competitiveness of enterprises.

The income gap between rural and urban population has narrowed since 2010 – this is partly due to high-speed rail

Ratio of Chinese urban/rural disposable income per capita



Source: World Bank

High-speed rail enhances city attractiveness, attracts more highly educated talents, promotes the interregional flow of innovation elements including technology and knowledge, and increases innovation investment of enterprise.

For instance, they found that compared to cities without high-speed rail, the number of patent applications is significantly higher for listed companies in cities with high-speed rail.

High-speed rail also enlarges metropolitan's no. of satellite cities as people could travel further within 1-2 hours. This has enabled more corporations in the big cities to relocate/add manufacturing facilities to a more suburban area which will help them to reduce costs.

Meanwhile, the local businesses in the suburban areas could relocate their headquarters to a metropolitan area where they could attract better talent. This has helped to reduce economic growth disparity between regions.

Since first launched in 2008, research suggested that high-speed rail is not only spurring economic growth but also reduces inequality.

Smart infrastructure

The Chinese government has also built smart infrastructure. The most renowned (and controversial) one is its mass surveillance infrastructure. As we wrote in our previous quarterly, this infrastructure has contributed to controlling the pandemic. Nearly all the 1st tier cities in China have deployed smart CCTVs on every street corner.

This has enabled the government to analyse traffic congestion points and guide the urban traffic scientifically. Mass surveillance is only the beginning. With 5G infrastructure rollouts, there will be more smart infrastructure to come.

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Large infrastructure spending will benefit non-ferrous/base metals – but not all metals are created equal

Nickel, copper, zinc, and aluminium stand to benefit most.

Besides combating the deep near-term recession, policymakers will also have to consider the catastrophic risks from climate change in the 2nd half of the century.

As such, governments should be looking to build renewable energy sources, improving the efficiency of power transmission, and retrofitting buildings to reduce their carbon footprints.

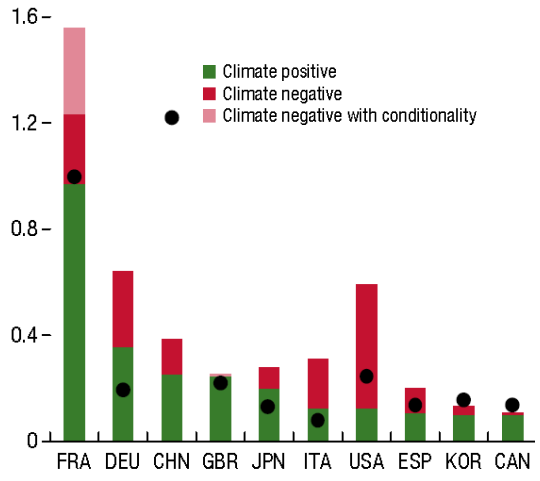
By doing so, the government could avoid potential income/jobs loss caused by climate change as well as improving people's health through reduced local air pollution.

Based on our observation from the infrastructure stimulus announced so far (page 8), most plans involve investments in digital and green infrastructure. In respect of digital infrastructure, many governments are pushing for a 5G network rollout and increasing broadband internet penetration.

As for green infrastructure, plans mostly include investments in solar panels and electric vehicle charging infrastructure. This is not to say that the traditional infrastructure such as roads, railways, and bridges are not on the list. Yet, it looks like more significant allocations are to the former, especially by governments of the developed countries.

Sizable climate positive portion of fiscal measures by G-20 countries

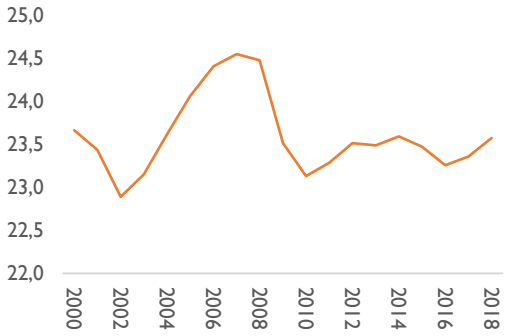
Percent of GDP, left scale



Source: IMF Fiscal Monitor – Oct 2020

Gross fixed capital formation affects base metal price

Gross fixed capital formation as % of GDP - world



Source: World Bank

Base metals price index

Source: Indexmundi

Infrastructure construction is generally good for base metals demand, as shown by the chart above. The prices of base metals are driven by fixed asset investments by both government and private sectors (measured through gross fixed capital formation).

For example, the recent price recovery of base metals is driven by the resurgence in industrial activity in China—which currently accounts for half of base metal demand. With the upcoming infrastructure stimulus, base metal prices could see further appreciation.

However, the upcoming infrastructure boom may not benefit all metals equally. To get an impression

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of what drives demand for the various metals, we have charted the breakdown of global metal demand for each metal below.

From the demand graphs below it can be observed that Nickel, Copper, Zinc and Aluminium have the highest demand from construction, building and the production of stainless steel.

A brief description of each base metals:

Nickel's largest application remains stainless steel. This will rely on infrastructure projects such as bridges and building construction. Nickel also play important role in the electric vehicle battery and pioneer of EV, Tesla plan to increase nickel content in their battery component due to cost and better energy density.

Copper's common application is for pipe and cable/wiring for building and vehicle. Massive infrastructure such as building construction and power plant grid/wiring will benefit copper. They also benefit from the electric vehicle although it is estimated that the magnitude to overall demand is not as significant as nickel.

Zinc is very important for galvanizing, it's the primary anti-corrosive coating for iron and steel products. The end-use consumption is mostly for construction, home appliances, automotive. Zinc is a big beneficiary from infrastructure especially projects such as railroad, telecom tower, etc.

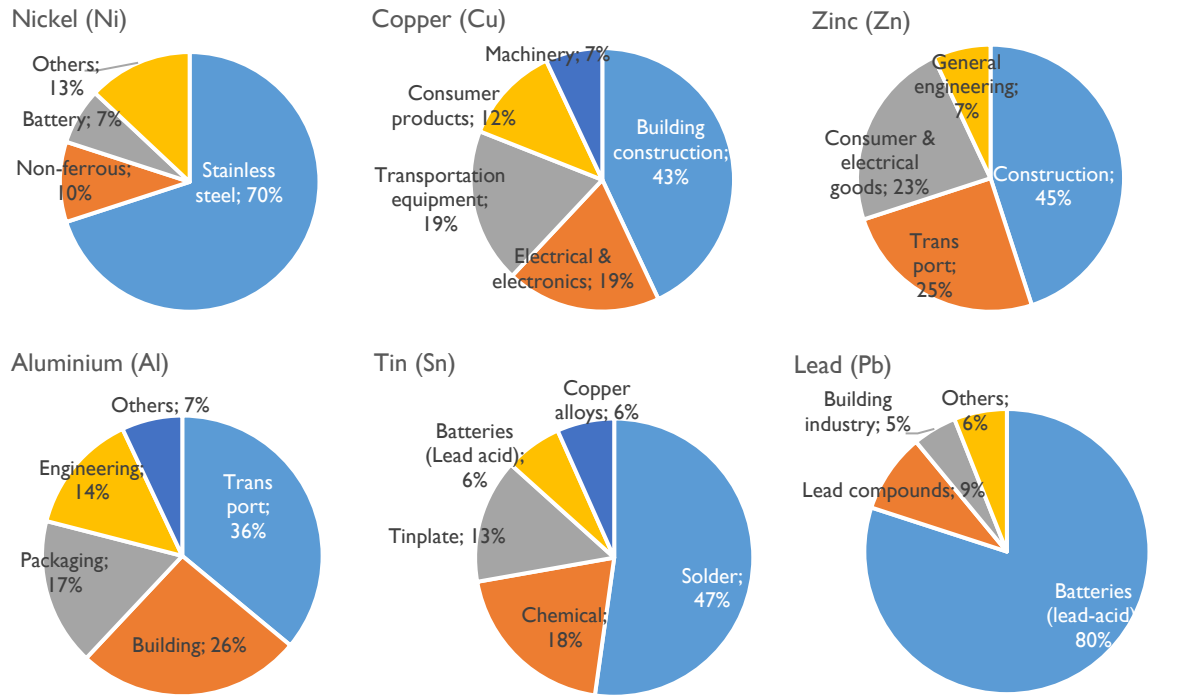
Aluminium is mainly used for automotive & aeroplane body for alloy, construction in forms of aluminium extrusion for steel alternative, Low-Medium voltage cables, and food & packaging (aluminium foil & can). They should benefit from infrastructure programs such as providing electricity to households and building construction.

Tin: Tin's main application is for solder which is commonly used in the semiconductor industry. As such, more data centres and Internet-of-Things could benefit overall tin demand.

Lead seems to be a sunset metal as the largest demand comes from the lead-acid batteries which are commonly used for internal combustion engine (ICE) vehicles. It looks like big infrastructure spending may not be able to offset the decline from lead-acid batteries.

Majority usage of base metals' demand is for building construction

Base metals demand breakdown based on consumption



Source: Nickel institute, CME Group

Based on the information above, metals that have large usage in the construction sectors are nickel, copper, zinc, and aluminium. Among these metals, nickel is a special case, as it is increasingly important in the production of electric vehicle batteries.

Tesla's Battery Day reiterates the good prospect for nickel

Aside from infrastructure construction, the demand for nickel will also benefit from electric vehicle battery production.

During Tesla's Battery Day, Elon Musk presented the company's ambition in bringing down the cost of electric vehicle (EV) to accelerate EV penetration globally. Tesla plans to build an affordable mass-market car with a sales tag of around US$ 25,000, and nickel will play a significant role in bringing down the cost.

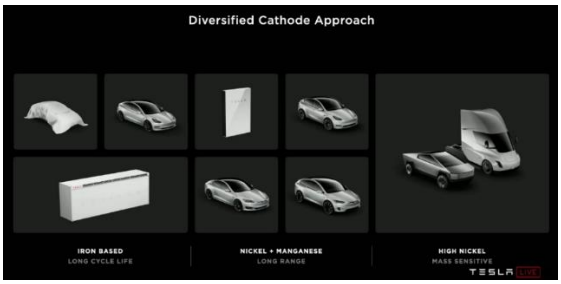
"Nickel is the cheapest and the highest energy density metal"

-Drew Baglino, SVP Tesla-

Tesla has been working on a high nickel cathode battery that has zero cobalt content. Please note that the latest battery technology is still using 80% nickel, 10% manganese, and 10% cobalt. By using a higher nickel content, Tesla can get a 15% reduction in the cost of its battery cathodes on a US$/Kwh basis.

High nickel cathode development is one of Tesla's strategy in bringing EV battery cost down

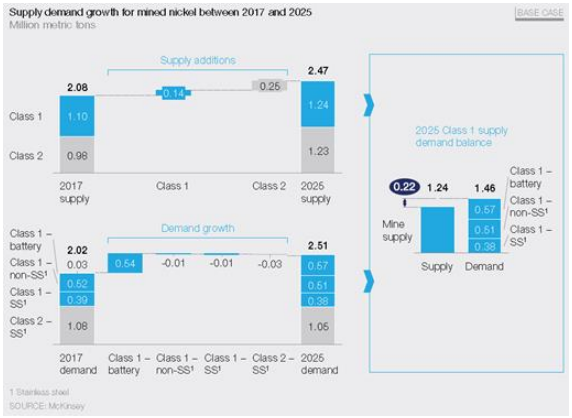
Tesla will take a three-tiered approach to battery development. Two out of three EV battery development will have a high nickel content. Given the importance of nickel, Tesla representatives have requested leaders of nickel mining companies to increase their nickel output.



Two out of three battery cathode development has a very high nickel content, about 90%.

EV battery production is expected to drive nickel demand in the long term. Currently, battery represents 7% of total nickel demand. According to McKinsey research, assuming global EV penetration will increase to 5% (from currently 1%), nickel demand will increase by 27%.

This is just from incremental demand of batteries alone without demand increase from stainless steel. Based on this scenario, they foresee there will be a supply gap of about 15%.



We believe that with the two tailwinds of (1) an infrastructure construction boom and (2) a rising EV penetration, the nickel price could appreciate substantially.

We will be looking at nickel mining companies which have a focus on upstream operations. Companies with downstream operations could be also interesting, although there are not many downstream operations that produce nickel sulphate - which is the raw material for electric vehicle batteries.

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The distilled version of the story

What we have written in this report – including its appendices - comes down to 6 major points:

1. Fiscal spending needed to support the poor. In order to stay in office and prevent an escalation of social unrest, governments will initiate massive public spending to relief those on the wrong side of the "K" and create jobs.

2. Governments will boost infrastructure construction. Historic policy success and current announcements make it evident that governments will spend massively on infrastructure, in addition to spending in the form of direct relief.

3. Metals and commodities to benefit. The combination of Infrastructure spending and inflationary pressure from debt monetisation could benefit metals and commodities. Aside from this, climate change and food hoarding is putting additional upward pressure on soft commodities (see appendix).

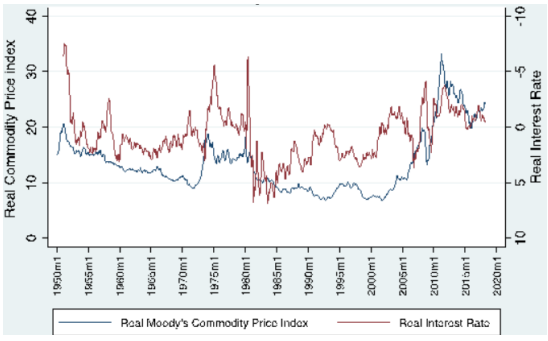
4. Nickel is particularly interesting. We believe that Nickel could benefit in particular, as it is not only a component of stainless steel - used in "ordinary" infrastructure construction - but is also increasingly used in the production of EV batteries. With demand for EVs on the rise, this potentially makes for a double whammy.

5. Purchasing power of paper currency likely to fall. The aforementioned spending spree by governments will likely be funded through more progressive taxation (tax the rich) and debt monetization, which is likely to impact the purchasing power of currency's and drive inflation higher.

6. Emerging markets could benefit from a reflation of commodities. If commodity inflation will occur, this could be a big tailwind for resource rich countries like Indonesia (See appendix). Just as a reference, in the last bull market for commodities in 2008, the Indonesian Rupiah traded below IDR 9,000, while today it is trading around IDR 14,500. Perhaps the years of Indonesia's underperformance is coming to an end.

Commodity price shows positive correlation with real interest rate

Moody's real commodity price index (left axis) vs. real interest rate (right axis)



Source: Moody's

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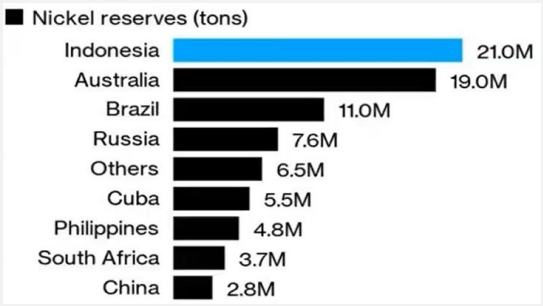
-The End-

Unlocking Indonesia's nickel downstream potential: Case of Morowali and Weda Bay

The largest nickel deposit in the world is in Indonesia. The metal is considered a strategic asset given its use in electric vehicle production. As such, the strategy to manage this natural resource will be critical for Indonesia.

Indonesia is sitting on the world largest nickel deposit

Nickel reserve in million ton



Source: Bloomberg

Indonesia's government has been pushing downstream mining activities for a long time. The main objective is to increase domestic/foreign direct investment, create more jobs, and improve the country's trade balance.

How Indonesia achieved this, was by imposing an ore export ban – which forced mining companies in Indonesia to build smelters in the country.

Due to the export ban, Indonesia has successfully landed a large investment from Tsingshan, one of the world's largest steel producers. Tsingshan developed Morowali Industrial Parks which is an integrated stainless steel manufacturing plant. Morowali Industrial Estate started has helped to boost Central Sulawesi GDP growth by 9% CAGR in the last 5 years.

Morowali industrial estate and the state-of-the-art stainless-steel plant

Since the establishment of the Morowali industrial estate, Tsingshan has invested about US$ 3.4 billion in its plant there and they plan to invest another US$ 5 billion to ramp up their production capacity for stainless- and carbon steel.

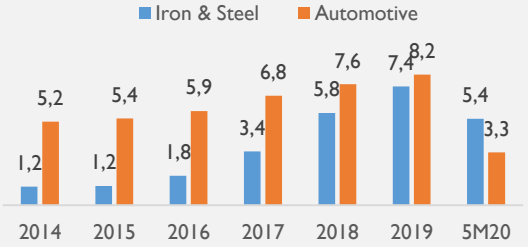
Companies in Morowali Industrial Park also directly employs close to 35,000 Indonesian workers and created local business opportunities in services, real estate, and propelled local industrialisation.

Morowali industrial park also helps to boost Indonesia's export. Based on May 2020 data, Indonesia's steel and iron exports already exceed Indonesia's automotive exports, which was Indonesia's largest exported non-commodity product.

With additional investments and capacity increases, Morowali could contribute more to Indonesia's total export.

Iron & Steel is Indonesia's largest manufacturing export, surpassing auto

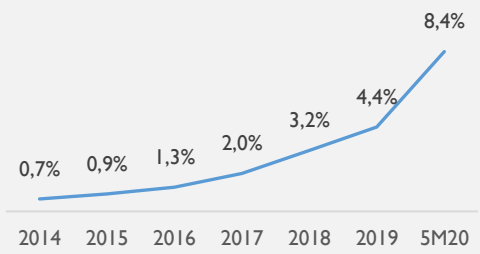
Indonesia's iron & steel vs. automotive export in US$ bn



Source: World Bank

Iron & Steel become a significant part of Indonesia's total export

Iron & steel as % Indonesia total export



Source: Indexmundi

The success story of Morowali Industrial Parks is a good showcase for Indonesian government to continue to push for downstream mining.

Another industrial estate that could emulate or even surpass the success of Morowali Industrial Park is being developed in North Moluccas. The estate, named Weda Bay Industrial Park, is designated for smelting minerals used in the production of electric vehicle battery components.

The high-grade nickel from the mines in Weda Bay is perfect for EV battery production - unlike the nickel mined in Morowali. Mining operations and construction in Weda Bay began in 2018. Nowadays, four production lines are already operational.

The industrial park has attracted several tenants from Chinese leading EV battery producers such as CATL and GEM. The Indonesian government estimates that investments in EV battery development in Weda Bay industrial park can amount to some US$ 10 billion. We expect that Weda Bay could have a similar impact on Indonesia's economy as Morowali has - once construction has been completed.

The developments at these industrial parks are very encouraging. We are hopeful that these industrial estates enable Indonesia to benefit from the rise of EV by receiving more FDI and generate more exports.

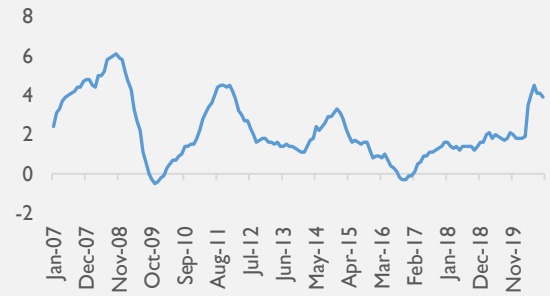
Food price inflation presents further risks to the wrong side of K

Lower-income households have high exposure to food prices

The announcement of food price inflation and a soft commodity boom sounds like a broken record to most investors. However, recent food price increases have enticed us to read more about this subject.

US food inflation YoY highest since 2008

US CPI food YoY, in percentage



Source: Bloomberg

We believe that food inflation has become especially relevant given the ongoing COVID-19 crisis that has disproportionally impacted lower income households.

According to the USDA, US households that earn less than US$ 20,000 spend nearly 40% of their income on food, while households that earn between US$ 20,000-39,000 spend more than 20%[3].

As such, more than ¼ of US households could be at risk if there is no support from the government.

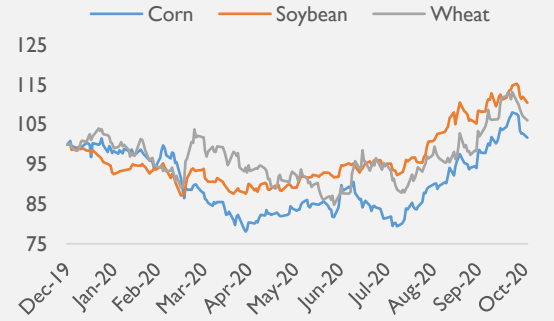
Several forces are driving food prices up

Soft commodity prices have started to increase. For example, the soybean price rose to a 4-years high, the wheat price rose to a 2-years high, while sugar and corn prices rose by +50% and +32% in the last six months, respectively.

The price increase is said to be driven by extreme weather conditions and food hoarding/inventory build-up by some countries.

Soft commodity prices have rallied in the last four months

Corn, Soybean, and Wheat price (indexed)



Source: Bloomberg

Extreme weather conditions are causing lower yields and drought in the exporter nations of large crops

For instance, the U.S. - which is the world largest corn exporter and 2nd world largest wheat and soybean exporter - is experiencing the most widespread drought since 2013, covering over 45% of the lower 48 states.

La Niña weather events may intensify the expanding drought. Forecasters anticipate a strong La Niña, with an 85% chance of it lasting through the winter, exacerbating drought conditions across the West. According to USDA estimates, US wheat production will decline by -5% in 2020.

Drought is also experienced in Ukraine, which is the world's 5th wheat exporter. Ukraine has seen rainfall average at just 30% of normal levels in the primary southern winter-wheat areas, causing the nation's driest autumn in nearly a decade. Given the situation, USDA slashed Ukraine wheat production estimates by -5.5% in 2020.

Crop output could be at risk due to rising global temperatures.

[3] As a comparison, the top 20% spends just 3% on groceries.

It is expected that crop yields will continue to be suppressed by rising temperatures and the increasing frequency of extreme weather caused by climate change.

A study by the US Proceedings of the National Academy of Sciences (PNAS), shows that for each degree Celsius increase in global temperature, yields of corn are expected to decrease by 7.4%, wheat by 6%, rice by 3.2%, and soybean by 3.2%.

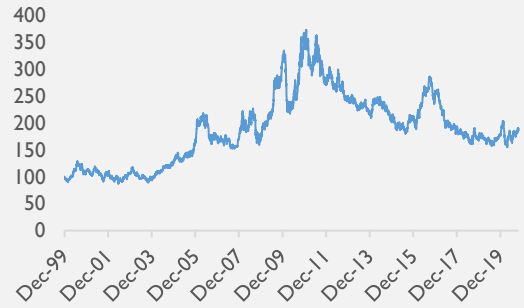
Technological advancement unlikely to offer relief through yield improvements, at least in the short term

Some argue that technological advances could increase the yield of crops, offsetting the yield decreases by climate change. Indeed, as discussed in our report of Q1 2018, the increase in crop production in the past 22 years was mostly driven by yield improvements.

Technological advancement such as usage of GMO seed has improved crop yield dramatically. However, there is a limit to GMO seed adoption, and we are seeing this rate plateau

Soft commodity price has been subdued in the last decade

S&P soft commodity price index



Source: Bloomberg

Countries are hoarding food

According to Archer Daniels Midland (ADM), the world largest crops buyer, a lot of countries have moved from a just-in-time philosophy of buying food to a just-in-case philosophy during the pandemic.

- Jordan is looking to further add their wheat stockpiles which are already at 17 months of supply.
- Egypt, the world's top buyer of grain, increased purchases by 51% since April 2020.
- Pakistan, historically a net crop exporter, is increasing purchases of wheat and sugar.
- China plans to bolster its state reserve across the soft commodities as part of its five-year plan. This is also to honour the phase one of the US trade deal.
- Taiwan recently announced plans to increase food reserves.

On the other hand, inventories at key exporting nations are near the lowest levels in six years.

Inflation to add further pressure

In our earlier reports, we wrote about our expectation that the world will see higher inflation. If this plays out, soft commodity prices are likely to increase as well.

As governments cannot allow for lower-income households to starve, stimulus to keep food affordable is to be expected

Soft commodity prices have been subdued in the last decade. Yet, due to the ongoing global warming, the hoarding of food and potentially higher inflation, we believe that soft commodity prices may have bottomed. This in turn could lead to food price inflation.

We expect that governments will need to aid vulnerable households. Providing stimulus checks and additional unemployment benefits will ensure that food remains affordable - and demand resilient - during the pandemic. Based on this scenario, we could see even higher inflation and soft commodity price.

Lessons from Germany's Autobahn construction in the 1930s: no silver bullet, but surely a good sell

Germany's "miraculous recovery" under Nazi rule in the 1930s is a contentious topic. The nation's gross national product grew by 9% annually between 1933 and 1938. During the same period, unemployment allegedly reduced drastically from 6 million only 400 thousand[4]

The (literal) poster child of this recovery and eradication of mass unemployment is the construction of the Reichsautobahnen, the world's first highway network.

Adolf Hitler inaugurates road work in a staged propaganda shot

In building the highway network, the Nazi regime pursued two goals. First, it aimed for a propaganda success, showcasing its ability to get things done as well as showing a break with past economic policies, especially austerity. Second, the Nazi government looked to boost employment.

However, research[5] has shown that highway construction was not a key factor in Germany's recovery after 1933. Initially planned to employ up to 600,000 workers, it never came close to such numbers. At its peak, only 121,000 Germans were working in highway construction.

Different views exist on how unemployment was really reduced, ranging from significant employment in rearmament, large-scale induction of men into the army, to sending people who refuse to take on work to concentration camps.

It also appears the Nazi regime did not shun from creative manipulation of unemployment statistics – such as removing Jews from the data altogether.

Meanwhile, Germany printed money (also indirectly through issuing central bank-backed MeFo bills) and ran unsustainable high budget deficits to fund the rearmament effort.

Yet, Nazi propaganda never got tired of boasting that the new highways were undeniable proof that they were making Germany great again. Unlike the employment goals of this highway building, the propaganda part of the highway construction goals actually worked.

Research shows that highway construction was effective in boosting popular support, helping to entrench the Nazi dictatorship. The effect of highways on popular support was also significantly stronger in politically unstable states of the Weimar Republic.

Moreover, results suggest that infrastructure spending can "raise support for autocracy when voters are led to associate it with visible economic progress and an end to political instability".

So, in our view, the lesson here is that even if fiscal spending may not deliver what it promises, it sells better than austerity and can keep a government in power. In this light, there is more reason to believe that "VERY BIG & BOLD" public spending – to use Trump's Twitter style - will remain high on the agenda in the coming years – even if that means running big deficits and devaluing the currency.

[4] Parker Abt (2017). The Nazi Fiscal Cliff: Unsustainable Financial Practices before World War II. *The Gettysburg historical journal.*
[5] Nico Voigtlaender & Hans-Joachim Voth (2014). Highway to Hitler. *NBER working paper series.*

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---------- Appendix IV ----------

COVID-19's bred MMT looks similar to The New Deal

Below are the comparison between COVID-19's-bred Modern Monetary Theory and the New Deal:

Policies	The New Deal (1933-1936)	CARES Act and The Fed's MMT (2020-present)
Direct relief, provides transfer payments for the individuals in need.	▪ **Federal Emergency Relief Administration (FERA) provided $2.3 Billion (4.3% 1933 US GDP) grants by the Federal Government** to finance states for direct relief (in forms of cash, vouchers and in-kind) and job-relief projects such as constructing and rehabilitating infrastructure. ▪ **Created Social Security Programs by relief program from the Social Security Act** The forms of social security namely: pension aid, disablement aid, orphan aid and unemployment insurance. In 1938, the unemployment benefits was ~$15 per week (~$ 267 of 2020 dollar) for 12-29 weeks benefits depending on the states	▪ **Direct Cash Relief for (almost) All Americans [CARES]** One-time cash payments to individual Americans, with single adults receiving $1200 and more for families with children obtain $500 under 17. It's adjusted with the household income. Size: $300 billion ▪ **Additional unemployment benefits [CARES]** Additional $600 per week for unemployment benefits from the usual unemployment benefits of $300 per week and states unemployment benefits. There's additional 13 weeks for exhausted unemployment benefits. Size: $260 billion
Job relief creates jobs for those in need.	▪ Creating jobs through infrastructure construction projects and community services, notable example**:** ➢ **FERA funded projects from the $2.3 Billion** had employed 20 million people (15.9% of 1933 US population) throughout 1933-1935. ➢ **Civil Works Administration (1933-1935)**, to cut bureaucracy, FERA created CWA to directly employ people with additional budget of $834 million (1.5% of 1933 US GDP) from the $2.3 billion, employed 4 million people (3.2% of 1933 US population). ➢ **Civilian Conservation Corps (1933-1942)** employed 500 thousand people (0.4% 1935 US population) by 1935. The total wages disbursed amounted at least ~$855 million (1.5% of 1933 US GDP) and it was employing 3 million young people. ➢ **Public Works Administration (1933-1939)** spent $ 6 billion (10.5% of 1933 US GDP) on 34,508 public works and employed 1.2 million people (0.95% 1933 US population).	▪ ***Upcoming. Donald Trump** had mentioned that he wanted to propose **$2 trillion infrastructure project** In the other hand, **Joe Biden** would come up with **the Green New Deal**.* *We believe that the job relief policy will commence soon regardless who wins the election. From our analysis the targeted work will be infrastructure; green energy or digital infrastructure*

	➢ **Work Progress Administration (1935-1943)** spent $4.8 billion (6.5% of 1935 U.S GDP) for construction works and community service projects. It employed 8.5 million people (6.7% of 1935 US population).	
Business support prevents business to fail	▪ **Reconstruction Finance Corporation (RFC, 1932-1957) aid lending for banks to stimulate lending and prevent bank failure, agriculture, railroads, industry, public school authorities, states government, federal agencies and several public works** with capitalization of $2 billion, equivalent of 3.5% US 1933 GDP ($500 million in equity and $1.5 billion of debt) financed by the Treasuries, in which the debt later sold to the public. RFC spent $13.2 billion between 1932-1939. ▪ **Home Ownership Lending Corporation, a federal-sponsored financial institution provided refinancing for mortgages** by acquiring distressed mortgage and giving lien holders government insured bonds to write a new loan. The refinancing is done by relaxing the payments with lower rates and additional maturity with 15 years or more. ▪ **Federal Housing Administration created federal insurance for mortgage** if it complies to the FHA-standard. It created standardization of 30 years maturity and low rates mortgage. The government helped to absorb the credit loss. ▪ **Increasing crops prices** by compensating farmer for not planting corps through the Agricultural Adjustment Administration. ▪ **Creating Farm Credit System** that consisted of Bank for Cooperatives & Production Credit Corporations, both are government sponsored cooperative institutions. It wrote $3 billion, which is 25-33% of national agriculture loan size in credit until in the end of 1930s. ▪ **Creation of industry codes for reference selling price and minimum wage** to stimulate inflation.	▪ **Paycheck Protection Program [CARES]** Forgivable loans for small business for $669 billion, $500 billion in aid for large corporations and $339.8 billion for state and local governments. ▪ **Main Street Lending Program [Fed]** In complementary for the QE program, the Fed provide loans for businesses with LIBOR+3% with balloon payment scheme (15,15,70) of 3-5 years maturity along with 1-year deferred payment. This helped to reduce the credit spread by intervening the loan market. Size: $600 Billion ▪ **Tax Credits, Deferrals and Deduction [CARES]** Increase in tax credits for operating losses from 80% to 100% for 2018-2020, suspend $500k limits and allow net operating loss to be carry back up to 5 years, resulting in retroactive tax refund. Allows employers to defer payment of social security tax for up to 2 years. Allows employee retention tax credit for employer whom business was affected by COVID-19 with tax credit of 50% of qualified wages and maximum credit $5000 per employee

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Monetary policies adjust the money supply and financial system	▪ **Devaluation of USD to Gold** from $20.67/oz to $30/oz in May 1933 and to $35/oz in January 1934. ▪ **Created Federal Deposit Insurance by the Emergency Banking Act 1933** Purposed to backstop the bank runs ▪ **Created the fractional banking system by the Banking Act 1935** this provides more liquidity in the banks.	▪ **QE Infinity [Fed]** The Fed has pledged to purchase marketable securities up to *'fallen angels'* debt, which is one-step closer to equity of preferred stocks, without limits. J. Pow, has stressed that **the Fed won't run out of bullets**. ▪ **0% Interest Rates [Fed]** The Fed had lowered the fund rates from 1.5%-2% in Jan-2020 to 0.5% in Mar-2020 and to 0%-0.5% in May-20 and pledged to maintain the rates until the economy recovers. ▪ **Fed Credit Lines [Fed]** The Fed also had offered hundreds of billion dollars in credit line facility of US Dollars to several countries to curtail monetary crisis as assets went to USD for safe haven.