A look at the inextricably linked and complex issues issues in the world of finance, and at its impact on the start-up world.

Finance

Finance

1.0

/ CIRCKLO

Inflation in 2022

It is common knowledge that there is too much inflation. Everyone is experiencing price increases in most goods and services. In the USA, the Personal Consumption Expenditures (or PCE) index is running at 5%. This is the inflation indicator most used by the US Federal Reserve, and it is clearly far above the 2% target.

Inflation has a strong cyclical component: when economies grow above trend and start 'overheating,' excess unsatisfied demand pushes prices higher. In order to reduce inflation, interest rates have to increase to reduce demand and economic growth.

If the excess 3% inflation were to be purely cyclical, one would need a very deep recession to get rid of it. Hence investors' worries (and therefore selling) due to the US Federal Reserve determination to rein inflation back in towards their 2% target.

Many non-traditional investors are now looking at the start-up world for early-stage investments but, in practice, one would need to consider what would happen if interest rates were to go up quickly and cause a recession.

According to Hadron Capital's Marco D'Attanasio PhD, "most companies and business models do not do well during recession, so investors will likely lose a lot of money due to the loss of value of their investment portfolios."

One might also argue that, in the case of start-ups, funding options would likely reduce as investors devote their attention elsewhere. It would appear that nothing could be further from the truth since, according to PitchBook's Senior Analyst Nalin Patel:

"VC deal value with non-traditional investor participation notched a new record in 2021. Capital deployment was relentless as non-traditional investors sought long-term outlier returns from high-growth areas. Non-traditional investors were drawn to emerging start-ups for strategic partnerships and synergistic opportunities. Emerging industries including food delivery and production enticed non-traditional investment in 2021."

Despite uncertainty stemming from the COVID-19 pandemic and macroeconomic volatility, particularly rising inflation, VC-backed companies have attracted copious amounts of capital from wealthy backers.

One should note that inflation is a cyclical event; in other words, almost every economic expansion follows a recession to restore better financial conditions. The transformation of economic processes towards more sustainable ones is structural, so sustainability-led businesses should be less affected than the non-sustainable ones.

The current high inflation is also the consequence of the pent-up demand that was accumulated during the COVID crisis. Given the extent of the demand suppression during the pandemic, it is likely that this extra demand is having strong effect on prices. The good news is that the post-COVID demand spur is transitory in nature and should soon tail off. Such a scenario should ensure a slower increase in interest rates by the world's central banks, and a longer economic expansion. In D'Attanasio's view, "this would create relatively benign conditions for investors and start-ups."

In Europe alone, the number of completed VC deals reached a record 10,583, thus indicating that rounds are growing in frequency as well as magnitude across the European VC landscape. Moreover, in recent years, non-traditional investors, including investment banks, private equity firms, hedge funds, pension funds, sovereign wealth funds, and corporate VC (CVC) arms, have significantly increased their exposure and appetite for investing in start-ups.

In 2021, according to PitchBook, the VC deal value with non-traditional investor participation notched a record eye-watering €78.4 billion. Capital deployment from non-traditional sources has been relentless as investors have sought long-term outlier returns from high-growth areas.

Inflation should decrease in the near future thanks to abating temporary effects of the post-pandemic economic acceleration. Will inflation decrease fast enough to make central bankers comfortable that interest rates do not have to be raised so much to destroy the economic cycle though?

D'Attanasio believes it is impossible to tell right now. The outcome of this inflation cycle will be data-dependent, with several dramatically different scenarios possible. This is a high-stake game with a series of uncertain outcomes. The only certainty is that financial markets are likely to stay volatile and over-react to future data on inflation.

According to PitchBook, VC-backed companies have offered pandemic resiliency and attractive growth prospects for investors that may have experienced downturns in other parts of their portfolios of financial assets during the pandemic.

Perhaps the strongest point of convergence between D'Attanasio's and Patel's views is the fact that, for investors, the current inflationary cycle requires caution, especially with regard to the investments in the business models that do well in a strong economy (i.e., the cyclical businesses).

Businesses with less cyclical characteristics (sustainable or impact tech start-ups, for instance) are looking increasingly appealing since global supply chain issues and rising prices have hampered international businesses and trade. It is clear that tech-enabled VC-backed companies have been less affected by both the pandemic and inflation, and these created – and continue to create - an attractive investment proposition for non-traditional investors.

Global Growth & Innovation

Globalisation may be considered by many a failed experiment: borders and people movement are increasingly fraught with issues related to visa restrictions, the import of goods and services faces an increase in bureaucracy and tax burdens, religious and cultural affiliations are turning communities inward making them increasingly insular, and foreign trade – with its usual import and export activities – has ceased to be fun.

One could argue that the only globalised place of our society today is the virtual space: social media networks, e-commerce sites, crypto industries, and online education services. This is a fascinating paradox of virtual borders being indirectly proportional to land borders.

Creativity and innovation know no physical boundaries; they are not bound by one's passport, religion, sexual orientation, or skin colour. Looking inward and trying to impose a variety of restrictions – of either goods, services or type of workforce employed – will seldom create, let alone sustain, wealth growth curves.

Humans are social beings, and from co-operation and collaboration across often self-imposed divides, the most incredible feats of technological and value-creation opportunities arise.

Today, we see the formation of geo-economic blocs; blocs that are not a part of the traditional ones related to the free movement of goods and/or services such as the European Union or NAFTA, but blocs that are mostly driven by a nationalistic, internalised, and geopolitical mandate.

Nuclear proliferation, together with a global arms manufacturing industry worth in excess of USD 360 billion annually, are giving rise to national and regional protectionism, creating the perfect storm for self-sufficiency and hindered global activism and wealth.

While the geopolitical games and propaganda are known, ridiculed, and even caricaturised by many, there is a certain segment of global wealth that will be dramatically diminished should such geo-economic segregation become formalised: financial markets – including all types of investors – and start-ups (new businesses).

Should such a near-future scenario arise, the most negatively affected will be the global trade: of products, services, and innovation. A start-up based in Russia today, for instance, may find it very difficult to secure funding from many western investors – the Russian legal and banking systems, while seemingly complex and strict, are often at the latitude and pleasure of the Russian political agendas and interests.

Similarly, a Chinese artificial intelligence or machine learning start-up may find itself subject to complex scrutiny by – and even asked to assign its intellectual property to – the Chinese intelligence apparatus.

The risk of conflicts in the geo-economic and geopolitical blocs, compounded by a rise in youth unemployment and job insecurity in developing economies - furthermore inflated by significant weather conditions which negatively impact the agricultural output - is very high.

The winners in any conflict that is related to geo-dominance or political agendas are no others than the movers and the shakers – often interest groups and lobbyist organisations – that have financed politicians and political parties, or those who will significantly gain from the nature and the aftermath of the conflict: arms industry, energy industry, manufacturing, and even pharmaceutical industry.

The losers of such conflicts, or of any geo-economic bloc creation, are the wealth and investment markets, together with the myriad of small businesses and entrepreneurs that fuel innovation, growth, and global co-operation.

Solutions to the problems faced by the humanity right now can only be identified and successfully deployed by humanity itself: and that implies collaboration, co-creation and the freedom to innovate, evaluate concepts and build a positive legacy.

Technology can help the humankind achieve that much needed collaboration, co-creation and innovation if put to good use, and if used as a means to the betterment of us all, of our planet, and of our own evolution as a species.

Consumerism

It is very funny how the human mind works, and how many of us are very quick to deflect responsibility and personal blame onto others first, without considering our own actions too much or the impact these may have.

In her 'Deflection Bias: The ascription and attribution of responsibility as it interacts with authoritarianism and locus of control in assessments of excuses', Herde (2003) argued that "many believe we are becoming a society of individuals who are unable to accept responsibility for their actions", pointing out that one's belief "system is the underpinning of the attributions made of responsibility".

It is telling how, as a global society and individuals, we enjoy and take much pleasure in life's little perks:

- a country's Gross Domestic Product (GDP), fuelled by industrial and infrastructure development, has personal consumption, business investments and net exports as the three fundamental parameters for its ranking.
- one's accumulated wealth, especially when expressed in the number of and type of vehicles (cars, planes, yachts) owned, is highly coveted and respected by many.
- one's ability to go on an overseas holiday is, for many, tantamount to a birth right and, looking at Britain alone, according to UK's Office for National Statistics, Brits made 58.7 million holiday visits abroad in 2019.
- and driving, flying or using public transport are considered by many basic tenets of our modern 21st century life.

Conservative estimates indicate that, in 2020, there were 1.42 billion operational cars worldwide, including 1.06 billion passenger cars and 363 million commercial vehicles, with regional aircraft fleets at approximately 25,000 worldwide in 2019, and expected to reach over 49,000 aircrafts by 2040.

Then why, one should wonder, is the oil and gas industry the only one blamed for global warming and climate change? Why don't we also look at the choices each of us makes? After all, oil and gas are freely traded commodities on the world's stock exchanges, and are purely driven by market demand.

There are simple, yet drastic solutions to wean our modern world of any oil and gas use: stop driving, stop flying, stop using trucks to transport and refrigerate food, stop using ambulances, and stop the manufacturing of pharmaceutical and electronic products and, this way, we can very quickly reduce the global warming levels – we just need to be prepared to see our modern world plunged into an economic and social chaos never witnessed before: very few modern humans would be able to survive a life similar to that of The Middle Ages.

Deflecting responsibility and casting blame onto others, being quick to see what is wrong with the neighbours or the world around us instead of, first of all, seeing how we ourselves can change our habits and behaviours, is intrinsic to human nature – yet it need not be.

The innovative and entrepreneurial spirit of the global energy industry is more than capable to identify new forms of energy sources, reliable, constant and safe – and our lifestyle and life choices, as a global society, should be able to adjust accordingly.

In 2019, the global beer production amounted to about 1.91 billion hectolitres, that is 191 billion litres. In 2019, considering that each litre of beer generates approx. 2 grams of CO_2 , the beer industry alone released more than 382,000,000 tonnes of CO_2 into the atmosphere.

According to a study by the University of Nebraska, agriculture is responsible for over 8% of the world's greenhouse gas (GHG) emissions, and beef cattle are responsible for the largest amount of GHG in agriculture.

The carbon footprint of a bottle of wine is around 1.28kg CO_2. In 2020, the wine consumption worldwide was estimated to amount to 234 million hectolitres, or 23,4 billion litres. Therefore, in 2020, the total CO_2 footprint of the wine industry alone was 29,952,000 million tonnes.

In 2019, according to Statista, the global level of CO_2 emissions was of 43 billion tonnes. If we are to eliminate the CO_2 emissions produced just by wine, beer, beef, foreign holidays, car, and plane travel, we would be able to slash the global GHG emissions by at least 10 billion tonnes, i.e. by more than 25%!

Overpopulation is in and of itself a main driver of industrialisation and resource depletion, according to supporters of the overpopulation theory. A book recently published by Hedberg (2020), examines the link between population growth and environmental impact, and explores the implications of this connection for the ethics of procreation.

Yet, there is also a populist view according to which overpopulation is not directly related to an increase in global GHG emissions, nor is a clear factor in global warming – but the wealth and how its adjacent resources are distributed are.

There is no one answer that can solve the global warming problem by itself. There is no one industry which, if it totally stopped trading tomorrow, would allow us to live as we have done until now. There is no one government that can enforce significant population consumption changes and business practices and be still considered democratic. And there is not one single human being who can say: “it’s not my fault.”

Investing in Ecosystems

A constant battle for competitive advantage and market share across the global economic spectrum is slowly but surely leading to ongoing shifts in terms of industry consolidation, new and emerging business processes, and emerging non-traditional channels.

Innovative businesses, especially those operating in the digital space, see networks and ecosystems as an increasingly strategic area of focus. The question is why? What are these business ecosystems and why are they becoming more attractive to investors than industry verticals?

According to Adner and Kapoor (2009), the business ecosystem is a value-oriented network, composed of numerous stakeholders and represented by transactions between the stakeholders (Bertassini et all, 2021).

An article published in the Journal of Business Research (Gueler and Schneider, 2021) argues that "business ecosystems are an important form of inter-organizational cooperation and potential driver of a company's success. Strong ecosystems strike a balance between their actors' cooperative value contribution and competitive value appropriation."

Additional research (Rong et al, 2021) suggests that in order to preserve sustainable innovation, work and collaboration between key ecosystem partners is a must, thus providing further credence to McKinsey's latest research which argues that "by 2030 the integrated network economy could account for 25 percent of the total economy […] with global revenues of $70 trillion."

The paradigm shift in the global strategy of multinational enterprises towards business ecosystems is fundamental to the creation of corporate networks based on corporate capital relations. However, what is poignantly clear today is that creating collaborative value through business ecosystems is crucial to achieving a circular economy model.

An area of academic research less explored until recently is that related to the link between circular economy and ecosystems structured by digital technologies. In this respect, the findings of a study presented at 2021 CIRP Design Conference (Trevisan et al, 2021) are compelling:

1. Ecosystems can apply circular actions at four different levels according to various digital technologies' degree of dependence.
2. There are three drivers that conduct circularity in ecosystems associated with digital transformation: virtualisation, supply optimisation and product optimisation.
3. Distinct types of ecosystems adopt different strategies and, while the transaction type focus more on dematerialisation and providing access, solution ecosystems focus on optimising products and processes.

Empirical evidence shows that companies implementing open innovation need several open networking capabilities (absorptive capacity, multiplicative capacity, and relational capacity) with suppliers, customers, higher education institutions, competitors, and others.

According to Ramezani and Camarinha-Matos (2019), as we move towards systems-of-systems composed of smart components with varying degrees of decision-making capabilities, of a distributed and socio-technical nature, there is also an increase in systems complexity and inter-dependencies.

In parallel with systems integration and hyper-connection, there is a growing focus on value chains and novel business models that leverage the collaborative potential among all the stakeholders involved.

It should come as no surprise that, in a an aptly titled article - The Hard Truth About Business Model Innovation – published in MIT Sloan Management Review in 2016, the complexity surrounding networks and ecosystems requires constant configuration and revision.

Ecosystem investing is not a new concept. As early as 2015, a bold argument was being made in article published in Stanford Social Innovation Review: " […] funders seeking impact at scale must view their work within the context of a broader ecosystem and adjust their behavior in response to change within that system."

A question worth reflecting upon by many investors still focussed on industry verticals is the same question used as subtitle in a white paper published by First State Investments: is the investment ecosystem ready to meet the needs of the next generation of investors?

Expectations may need to be set not only in what dedicated responsible investment funds can achieve but, also, in how they achieve it. Circular economy is not just an industry, but an entire ecosystem, and there can be no tangible and sustainable action without investors realising that they need to invest in ecosystems: what seems like a good idea is worth very little if it does not connect with other elements belonging to the value chain.

There is another critical point to make: investors should target companies that are part of the same technical ecosystem. For instance, to invest in a company that is cloud-based and has a microservices architecture, and then in another one in the same space - but one that has a layered architecture - will give the impression of no portfolio strategy.

Today, there are many start-ups that choose their investors: they have a strong product or service, they fill a gap on the market, or they solve a problem. Such start-ups are in high demand, and they never lack sources of investment – so, to be selected by such start-ups, investors need to offer more than just cash: they need to demonstrate that they have a very good understanding of the technical ecosystem of that start-up, and that their portfolio of investee companies is comprised of other start-ups that operate in the same ecosystem.

Cryptocurrencies & The Dark Web

There is a part of the internet that is wholly inaccessible to public search engines. This area of the internet has become known in the popular slang as the “dark net” or “dark web”.

It is “dark” because it is hidden from conventional online access, and it is also “dark” because it is mostly used for nefarious purposes such as child pornography, human and organ trafficking, sexual deviances, drug use, weapons trade and so on.

One needs special tools to access the Dark Web, the place where the users’ activities are anonymised, and where their activities are more difficult to track. To access it, one requires specialised encryption software and browser protocols – and the only path inside that “darkness” is via the The Onion Router (TOR).

What may not be commonly known is that TOR was created by the US Government to enable the fully secure and anonymous exchange of information between its various intelligence services’ staff and agents. What may be even less known is the fact that no more than 10% of the total web accessibility is open (there are numerous articles and studies that position this between 5%-10% of the total web usage) – all else happens in the shadows of either the deep or the dark web.

With untraceable cryptocurrency as the primary means of payment, Bitcoin became popular to pay for illegal goods on the Silk Road (dark web marketplace). Today, however, Monero – a cryptocurrency – appears to be the most favourite way of payment for most of the dark web’s illicit transactions.

It is worth noting that the dark web does have its merits, as clearly articulated by Aditi Kumar, the executive director of the Belfer Center for Science and International Affairs at Harvard University’s John F. Kennedy School of Government, in an article for The International Monetary Fund’s Magazine, *“Finance and Development”* (Vol.56, No. 3, 2019):

“For individuals living under oppressive regimes that block large parts of the internet or punish political dissent, the dark web is a lifeline that provides access to information and protection from persecution. In freer societies, it can be a critical whistleblowing and communication tool that shields people from retribution or judgment in the workplace or community. Alternatively, it can simply deliver privacy and anonymity for those wary of how corporations and governments are tracking, using, and potentially monetizing their data.”

On a more positive side, government agencies have become increasingly successful in taking down dark web markets, and this could be due to their increased understanding of the Bitcoin blockchain and of how transactions can be successfully traced end-to-end.

An increase in the use of cyber technology like cryptocurrency and ecommerce marketplaces led to an increase in the demand for data privacy. In 2011, the Silk Road (taken down by the FBI in 2013) was created with a view to connect illegal drug sellers with interested buyers online, while protecting their identities and transactions using anonymisation techniques. Its founder, Ross William Ulbricht, is serving a life sentence for his role in creating a safe haven for drug dealers worldwide.

As with all things nefarious, Silk Road’s market “stall” hasn’t been left empty for long. More and more various size trading places popped up, and today the largest of them all is White House Market. According to DarknetStats, White House Market has an excess of 22,000 listings, and over 500,000 users.

What is of particular interest for the purpose of this report is the fact that cryptocurrencies and even Bitcoin seem to be thriving as a method of payment on the dark web. The dark web has minimal conventional payment transactions, hence the legality of the items either bought or sold is further brought into question.

In April 2021, the global assets in cryptocurrency topped $2 trillion for the first time ever. There are billions of dollars invested in cryptocurrencies and blockchain technologies weekly and, according to Forbes, FTX – a crypto derivatives exchange - closed a record $900 million fundraise at an $18 billion valuation, and boasts $10 billion in daily trading volume, having more than 1 million users worldwide.

Sir Tim Berners Lee allowed his World Wide Web to be available to all, to help all, and to contribute to the betterment of humanity overall – his invention boosted the science and research industries, provided us all with an abundance of opportunities to expand our knowledge but, also, gave rise to a much darker side of humanity; a place in the shadows where illegal transactions and despicable acts take place.

The same can be said for much of the novel technologies, especially blockchain and cryptocurrencies. In and of themselves, they are beneficial to technological and economic progress. According to IBM, blockchain provides "enhanced security, greater transparency, and instant traceability. Beyond matters of trust, blockchain delivers even more business benefits, including the cost savings from increased speed, efficiency, and automation. By greatly reducing paperwork and errors, blockchain significantly reduces overhead and transaction costs, and reduces or eliminates the need for third parties or middlemen to verify transactions."

Additionally, Deloitte argues that some of the benefits of using cryptocurrencies are enabling simple, real-time, and secure money transfers; strengthening control over the capital of the enterprise, and managing the risks and opportunities of engaging in digital investments.

Cryptocurrencies seem to have almost lost their reputation battle since they are the preferred method of payment for all transactions across the dark web. That is not to say that the concept/intent of cryptocurrency or blockchain technology is flawed – far from it; if one were to argue that, one would also have to argue that Sir Tim's World Wide Web is inherently bad, and there is nothing further from the truth.

For hedge funds, private equity firms, venture capitalists and similar investors, new tech is a goldmine of opportunities – but, as with every new opportunity, the risks posed by just making a very healthy return on investment need further consideration. Simple questions such as "who uses it and why" may open some doors that many would rather see closed for a long time.

According to long and short-term impacts of regulation in the cryptocurrency market published in The Quarterly Review of Economics and Finance (2021), events that increase the probability of regulation adoption are associated with negative abnormal returns for the cryptocurrencies concerned. This is a clear indication that, unfortunately, many investors are not keen on having a tighter regulation on the use of cryptocurrencies, as this may be seen as hampering their attractiveness as an investment and/or decreasing the return of their various transactions.

No investor – of any type or size – can claim that their investment portfolio is sustainable without having a clear picture of what for and how their money is being used and, most of all, of what the actual product/service they invested in can do.

The more investments are being made in sustainable tech companies, the more "circular" the investment portfolio becomes, and cryptocurrencies and blockchain technologies are atop that list.

There is another layer of complexity added to the dark web – that of freedom of expression/speech, without any fear of retribution; a place where conversation can take place in earnest and where privacy is more than respected: it is inherent to the platform.

Furthermore, the dark web is also a place where the security and defence agencies across the world find more than criminals: they find a secure space where they communicate and exchange information, with minimal fear of reprisal from or breach by cyberterrorism.

Artificial Intelligence, Blockchain Technologies and Cryptocurrencies are here to stay. How much they are allowed to be put to good or bad use depends entirely on their users and their investors. Our world today requires collaboration and a concerted effort from regulators, private citizens, large corporations and internet giants to promote accountability, responsibility, sustainability and progress for the humanity, not for just a few.

CIRCKLO

Read more reports by Circklo

circklo.com