Second Annual Report 2021

IIM AHMEDABAD
IIMA ALUMNI

Public Policy SIG

Annual Report
2021

IIM Ahmedabad
Public Policy
Alumni Special Interest Group

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NOTES

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Foreword: Prof. Saral Mukherjee

Dean, Alumni and External Relations

IIM Ahmedabad has a vibrant alumni base who are engaged in making a difference to individuals, organizations and society in India and abroad through management practice. Historically, our means to reconnect with the alumni base has been through location specific alumni chapter activities. The Alumni Special Interest Groups (ASIGs) is a significant innovation in this respect which brings together alumni sharing similar interests.

The activities of ASIGs can create learning opportunities for students, faculty and alumni and lead to new knowledge creation through collaborations on research, case studies, courses, workshops and webinars. To facilitate the collaboration potential, ASIGs have been paired with student clubs and interested faculty. We expect ASIGs to assist networking among alumni as well as contribute to bridging the gap between industry and academia.

The Public Policy ASIG is one of the most active ASIGs with a wide diversity among its members. During the Covid-19 pandemic, activities of the Public Policy (PP) ASIG were mostly restricted to organizing webinars. As the pandemic related restrictions ease, the PP ASIG could take the activities to the next level and build on the combined interests of alumni, students and faculty in the domain of public policy.

IIMA ALUMNI Public Policy SIG

Message: Prof. Rakesh Basant

Faculty Coordinator, PP ASIG

The Alumni Special Interest Groups (ASIGs) were created at the Indian Institute of Management, Ahmedabad (IIMA) to enhance alumni engagement in select areas and set up a platform wherein the three key stakeholders of the Institute - alumni, faculty, and students - can come together to make meaningful contributions to the understanding of various issues in these areas. It was hoped that in the process learning and growth opportunities will get created for all the three stakeholders. I am very happy to see that some of these expectations are getting fulfilled with more alumni getting engaged with the Institute in their areas of expertise and interest.

The Public Policy ASIG has been one of the most active ASIGs. It has not only undertaken interesting activities to bring the stakeholders together but have also built linkages with the policy makers. Such linkages enhance the utility of the insights on various issues that the activities of the ASIG generate. Broadly, during the last one year, the Public Policy ASIG has focused on policy and other challenges of two impactful developments in recent years: the disruption created by the Covid-19 pandemic and the emergence of crypto currency. Both these events have resulted in varied and significant challenges for policy makers. Several panel discussions and interviews were organized to explore different dimensions of these developments. In addition, discussions were organized on current policy initiatives like Production Linked Incentive Scheme and the Drones related regulation. These discussions also brought out interesting insights on the intricacies of policy making processes. This volume summarises the insights from all these interactions.

Many alumni who are part of the Public Policy ASIG have shown interest in writing cases on policy related issues. To facilitate this endeavour, a training session was organized on the nitty-gritty of writing cases. I am really excited about the possibility of a steady stream of cases emerging out of the Public Policy ASIG stable which will enrich the teaching of public policy linked courses at the Institute. The potential of the ASIG contributing more to the learning processes on campus has got strengthened even further as linkages are being built between the ASIG and the JSW School of Public Policy at the Institute.

Akhilesh and Suhail as founding alumni co-ordinators of the public policy ASIG have done a wonderful job of kick-starting the ASIG activities and growing them to a meaningful level. Suhail has decided to opt out of the co-ordinating role and Praveen has kindly agreed to step into his shoes. Suhail has been very passionate, patient and perseverant in his role as a co-ordinator. We hope to build on the momentum that he and Akhilesh have helped create. I am sure that the alumni and other coordinators of the Public Policy ASIG and its alumni members will continue to strive for making the ASIG even more vibrant and meaningful. I hope that in the near future, the ASIG will be able to diversify its activities to foster meaningful research, case writing, curriculum development, and teaching in the area of public policy at the Institute.

Message: Prof. Anish Sugathan

Faculty Coordinator, PP ASIG

This is the second year that I am writing a message for the PP ASIG annual report in my capacity as the IIMA faculty coordinator. As I am recollecting notable events and achievements of the PP ASIG during the past one year to summarize, I simultaneously feel a sense of pride mixed with awe. Awe, because it is only rarely that one gets to witness a collective cause bloom from its infancy to a stage of maturity where it is capable of making visible and tangible impact to policy practice in a short span of less than two years. And awe further still, for all this had been primarily made possible by the voluntary contributions of copious amounts of time and efforts by a few committed professionals from whatever little spare time they could manage to take out from their otherwise busy schedules.

Now the sense of personal pride for me is perhaps a little misplaced, for I've been mostly a witness to this journey of PP ASIG, with meagre personal contributions. It is primarily the championing by the founding coordinators, Akhilesh and Suhail, that I would attribute much of the current successes of the PP ASIG to. While Anurag and Vidhi from IIMA alumni office ensured exceptional support for every initiative of the PP ASIG. And on this occasion it is this core group of contributors driven by sincere public service motivations, who truly deserve to feel proud!

At this juncture, when the PP ASIG is evolving its identity and core calling, I would like to pose three questions critical to steering the platform into the future. I hope these questions may prod broader reflections on the future pathways for the platform to tread on.

First, is the existential question of purpose. The question of *raison d'etre* for the PP ASIG. Prof. Basant conceived the PP ASIG as a neutral non-partisan platform for the exchange of ideas and as an enabler of action in the interest of the greater public good. PP ASIG has indeed developed capabilities for exchange of ideas through a series of webinars. However, in the post-Covid deluge of webinars, expert opinions, and debating panels, what are the conversations that PP ASIG members should engage with and host? In the past we have pursued emerging and urgent areas of public interest, like Covid response in India, regulation of Drones, and Crypto-technologies. Tapping into the expertise of IIMA's alumni body, we found champions to own and steer these conversations, some leading to direct policy influence. How long and deep should the PP ASIG tread on this path? Can PP ASIG position itself as the go-to platform for guidance and advice on frontier and exigent areas of public policy?

Second, the organizational design and structure of the PP ASIG can determine the efficacy of the platform in pursuing its purpose. As the platform starts to scale and mature, the original small-group design based on good-will, stewardship, and mutual trust will likely be strained. Establishing accountability structures and processes rooted in fairness, will become critical for frictionless engagement with internal and external stakeholders. How should PP ASIG render itself to this transformation?

Finally, why should an IIMA alumni participate and engage with the PP ASIG? While the platform is currently driven by the volunteering spirit of a few champions, a wider scale of engagement demands understanding how PP ASIG can help fulfill the personal and professional goals of potential members.

In closing, I would like to welcome Prof. Saral Mukherjee, as the incoming Dean AER, and Praveen PA, as the incoming alumni coordinator. And once again, I thank Prof. Rakesh Basant, who conceived the PP ASIG, and Suhail Kassim, the outgoing alumni coordinator, for sincere contributions making PP ASIG what it is today. I also invite you as an alumnus of IIMA to join the PP ASIG and be part of this enabling space for conversations and impact.

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Message: Prof. Namrata Chindarkar

Chair, JSW School of Public Policy

India has entered a critical phase of development where it continues to grapple with the challenges of poverty, inequality, malnutrition, and poor learning outcomes on the one hand while facing new and evolving challenges such as climate change, low-skilled labor force, technological disruption, and digitalization of governance on the other hand. As a consequence, policymaking in India needs to be future-oriented while remaining grounded in historical and local context. For instance, education policy needs to focus not only on improving school-level learning outcomes but also on how to leverage individualized-technology to meet the widening skills gap. Similarly, agriculture policymakers need to think about both improving farmer incomes and increasing productivity through augmented AI.

At the JSW School of Public Policy (JSW-SPP), we recognize that these complex and inevitable challenges require rethinking policy design, policy implementation, regulation, and policy evaluation; and acknowledge that public policy no longer involves only the government but requires deep collaborations between multiple stakeholders. Our aim is therefore to engage in research, teaching, and dialogues that bridge the past and present with a sharp focus on future of policymaking and governance in India.

With these objectives in mind, we initiated the "India 2031" Public Talk Series in November 2021 which will bring speakers from the public, private, and non-government sectors in a public forum to identify challenges and provide solutions to the unique policy challenges of India. We plan to introduce a series of "21st Century Public Policy Skills" courses that will train stakeholders from across sectors in skills such as systems and design approach to public policy, futures thinking in public policy, public leadership in a VUCA world, and data-oriented and evidence-based policy decision making.

The PP ASIG has been invaluable in supporting the vision of JSW-SPP. Through webinars on policy challenges such as regulation of blockchain, bitcoin, and cryptocurrency it is already leading the way towards future-oriented policymaking. In the near future, we hope to conduct dialogues on topics such as platform governance and regulation of data and AI.

I would like to thank PP ASIG for its enduring enthusiasm and close collaboration with JSW-SPP. I would also like to invite more IIMA alumni to join us on this exciting and transformational journey of the institute as well as the country.

Overview of the Public Policy Alumni Special Interest Group

When a group of WIMWIans convenes, we find ways to change the world, if only to change the world around us. This is both our training and our legacy, for IIMA has always been at the forefront of policy decision making in the country. Professors have contributed to the design process, shaping the contours of policy, and alumni have been part of the policy making framework over decades, whether as part of their day jobs, on consultation and expert committees, or via industry bodies.

The work on making the idea of Public Policy Alumni Special Interest Group (PP ASIG) come alive began with Prof. Rakesh Basant reaching out to create a core group. Discussion documents were created to delineate the purpose and focus of the ASIG along with initial thoughts on the logistics of making it real (we have dug around in our archives and have pulled out one of the initial documents for the group to read and reflect upon in this annual report). A detailed survey was run in early 2019 to solicit views from a variety of stakeholders on their inputs for the PP ASIG's purpose and focus. After all this groundwork, to convene with our shared interest in policy was the next logical step, and the policy hub of Delhi was the natural location for the meeting in early October 2019. The vibrant exchange of views, backed by evidence, examples, practice and purpose, was focused on building a shared space where we could all contribute to public policy in constructive ways.

There were a range of experience in the group - some alumni had retired from policy positions while others had just been recruited into the formal world of policy. The government's new lateral entry cadre had just been actioned, and we had representatives from there, as well as from civil society who had worked on public policy research and action for decades. A wealth of experience as Officers on Special Duty with Union Ministers, as professionals with multilateral and multinational agencies, as consultants and practitioners, and as academics, lent heft to the discussions. As we progressed the discussion, we realized that there was much to contribute to the policy discussion. The key question was then about strategy and process - where and how should we make a start, and which efforts would be sustainable in the future.

The group has made substantial progress a lot since that day. While internal discussions within the group help us understand and navigate policy issues outside of our core domains, we also extended these discussions to the wider community. The deliberations within the group are about sharing and learning, as we seek and explore deeper understandings of the problems and possible solutions. The discussions that are shared with the public focus on conversations with eminent personalities, and their experience with navigating policy structures to do good. Our dialogue has been wide ranging but also pragmatic with significant depth as they are led by domain experts.

The PP ASIG has been one of the first of the IIMA alumni groups to align in this “ASIG” avatar, and has been able to lead and support other ASIGs in their early endeavours by sharing both pace and outcomes. Its confident start lays the foundation for achieving the enormous potential that the policy space presents. Despite restricted circumstances of the pandemic over the last two calendar years, the PP ASIG zoomed forth online and enabled discussions on myriad issues of import at the national level. There is much that we can do together as alumni, and as we go further down the path of enabling policy makers for social good, we realize how many of us have been doing excellent work over the decades in this area. This has been a journey of discovery of the impact of our Institute at both the national and regional level - and the stories we find are truly inspiring.

As the PP ASIG reflects on its solid start, it needs to expand its domain to something even more substantial, given the potential within the group. From sharing learnings and stories, to debating difficult policy positions, and to creating pathways for the future – there are many things that can be done. This is an ongoing discussion, for policy necessarily follows the needs of the people, and must therefore grow in line with these needs. The PP ASIG stands at a vantage point in this discussion as it begins to realize its potential to make improvements in the lives of the people.

From the Archives

November 26, 2018

IIM-Ahmedabad Public Policy Special Interest Group (IIM-A PP SIG)

To kickstart our brainstorming/ideation, here are a few broad pointers on issues that, if we agree upon as a group, we can start to put a structure to the PP SIG. These are some thoughts and ideas on the various topics: these are by no means comprehensive or conclusive and hence are open to significant modifications. In most cases, the ideas are presented as options which may be amenable to being chosen either singly or in conjunction with other ideas. There are also a few questions which are more like decision-points. None of these need to be cast in stone right up front but the sharper our initial definitions are, the more will be our measurability of success and the more our ability to try course-correction or choose new alternatives. I have desisted from highlighting my choices in this document – I do not want to anchor the discussion on a set of highlighted choices or on the judgment of my choice – and hence these choices have been presented in no particular order.

Here are some pointers for discussion, debate and development:

What is the purpose of the SIG?

- To be a *think-tank* – putting out reports and white papers over the course of the year.
- To be a *discussion-forum* – use the "convening power" of the institute (that reflects over to the SIG) to create engaging discussions with internal (IIMA/SIG) and external audiences on relevant topics of interest. This could include organizing conferences, workshops, events, etc.
- To be a *policy champion* – identify a few areas where we want to deliver impact and be a "champion" for policy change in such cases. The "championing" could be done by the collective SIG or by individual member(s) of the SIG.
- To be a *networking forum* –host events for networking (dinners, get togethers, informal meetings, off-the-record chats, etc.)
- To be an *advisory forum/sounding board* – for bureaucrats, politicians, political advisors, professionals from entities dealing with government like consultants, bankers, multi-lateral agencies, NGOs, etc.

* To be an *analyst forum* – which evaluates the government policies, ex-post and highlights what is good and what could have been done better and puts forth recommendations.

What do we focus on?

* *Scope* of the SIG: India as a whole, and/or only the Centre, and/or only the States, and/or only a few chosen States plus the Centre, and/or global?
* Which *areas* of public policy: the ideas of democracy, elections (process, funding, candidates, manifestoes, etc.), civic and civil rights and obligations, knowledge management and cross-learnings across countries and sectors, the design, successes and failures of institutions, economic management, private sector development, financial sector development, infrastructure, skills, inclusive technologies, etc.
* Which *phase* of public policy should we concern ourselves: Ideation, policy recommendation, policy design, policy evaluation, project evaluations, or all of these?
* Do we choose *specific sectors* to build expertise or do we identify ourselves with *specific policy recommendations*. For example, do we talk about all policies in the agriculture sector or do we talk about market design mechanisms that can help this sector (and all such). In either case, which specific choices do we make?
* Do we leave out *politics and politicians* or make it/them an integral part of our SIG? Do we focus on *geo-political* implications of our public policy recommendations?

Organization structure

* For a 'start-up' like this, it should be very nimble and exploratory in the first couple of years to see what works.
* This SIG carries the brand and reputation of a well-known institute of management in western India and the topic is a serious one – so we should start with a formal structure and roles and responsibilities. If so - what positions open up and how do we fill them up?
* Since this SIG deals in PP which is now run as a course at IIM-A, there should be active collaboration with the JSW School of Public Policy.
* Have a 'face' or a 'leader' for the SIG to help build the public profile for this group.
* Allow active members to talk about this position on their professional profiles, like LinkedIn

How do we go about it?

- Time dimension
  - Align with the academic calendar of IIM-A: school opening, vacations, etc. or with public policy calendar of India: budgets, election cycles, key policy announcements like trade policies, RBI meetings, global leaders visiting, etc.
  - How much time commitment will this group require from its active members or partially-active members? (What do we do with dormant or passive members?)
  - How soon do we start evaluating the success of this group: a few months, a few quarters or a few years down the line?
  - How much time can the institute offer this group with respect to the access to its faculties and facilities?
- Activity dimension: which of these and how many of these do we set out to achieve:
  - Newsletters and articles
  - Presence in mainstream media: writing thought pieces, articles, OpEds
  - Presence in social media
  - Events: speaking engagements, networking dinners, get togethers, etc.
  - Case writing: describing specific challenges faced by public policy professionals
  - Teaching hours: by guest or visiting faculty

Connect and usefulness for the institute and the alumni?

- For the institute:
  - Be an influential voice in public life of India
  - Play its social role in developing expertise and thought-leadership
  - Faster and more warm/direct access to alumni in influential positions
  - Build new courses, cases, career tracks for its students and alumni
- For the alumni associated with the SIG:
  - The convening power of the institute to put this all together
  - Ability to shape thinking in the field of public policy
  - Create a name for oneself and his/her associated organization
  - Build important, interesting and diverse networks
- For the common alumni:
  - Ability to access a forum that can make their concerns, ideas heard
  - Knowledge sharing and network enhancing opportunities

- Another source for jobs, part-time assignments, etc.

Financing and sustainability

- Depending on how we define the scope of the SIG, we will need to estimate the funds required (over and above the use of institute's facilities – will they be at cost, nominal cost or free?) For this SIG to be self-sustaining, we have to ensure financial viability. Can IIM-A contribute some funds for SIGs over the initial few years?
- Some options could include:
  - Membership fees
  - Ticket sales for events
  - Speaking fees – for some speakers who speak at the event hosted by SIG
  - Writing fees – for those wanting to get their articles published by the SIG
  - Sponsored research
  - Sponsorships for events
  - Chairs and endowments
  - Paid-for dinners
  - Event-hosting at organizations that the members are part of
  - Overall branding partnership (like the JSW Public Policy School)

How will we measure success of the SIG?

This need not be the agenda of the first call but we should nail this soon enough so that we know we are on a path we have set for ourselves.

From a recent member: Kamal Gaur

Experiences of working with IIMA PP ASIG

I've been on the crypto journey for over 4 years now, which in crypto years, makes me a bit of an OG. What started as academic curiosity and a possible opportunity for financial freedom, soon transformed to a strong passion to help demystify the blockchain & crypto space for people keen to understand more. That passion has led me to have innumerable conversations with friends and colleagues, as well as hold knowledge sessions for colleagues and batchmates on an ongoing basis. One of said sessions, conducted for my PGP 2004 batch in April 2021, turned out to be quite serendipitous as it led me down the path of learning & discovery with the IIMA Public Policy Alumni Special Interest Group.

Many of you already know the highlights of our journey down the crypto rabbit hole - we conducted seven webinar sessions, speaking to experts from law, public policy, international finance, tax and not in the very least, the crypto industry. We were in the throes of our public policy document finalization when the opportunity to attend a closed-door session on crypto with the Indian Govt's Finance Standing Committee presented itself to us, which then led to a whirlwind 11 days that culminated in us not only having shared our perspectives to the Committee, but also having provided answers to the seemingly innumerable questions that all of us were peppered with.

It's been quite a hectic and fun ride over the past 6 months, and one way or another, my passion for crypto and Akhilesh's passion for public policy has seen us through, but I recognize that we were fortunate - not just to have the energy or the time, but also support systems at home that allowed us to put in the efforts we did.

As the IIMA PP ASIG sets out the future roadmap for itself, it will be important for the Institute to bring forth the depth of resources at its disposal to put in place processes and people that can help create, maintain and strengthen the body of work on the Public Policy front. We would also want to find ways to leverage not only the cutting-edge domain expertise that some of our alumni can offer, but also supplement it with the heavy-duty public policy knowledge that only an institution with its years of research and its trained resources can bring. And finally, we will likely want to leverage an organizational management model that allows the IIMA PP ASIG effort to remain nimble yet heavy, go deep yet broad, go bleeding-edge yet textbook - all at the same time, if so needed. As we think through this last point, it might help to look at inspiration from methodologies like Agile (self-organizing, cross-functional teams) and Kanban (balance demands with available capacity) that can help us streamline and manage our collective efforts.

And at this juncture, I must say, that the opportunity clearly exists - there is a huge gap in the Indian public policy space for insights that come from reputable & trusted authorities, and IIMA is perfectly poised to fit that gap. It has the brand name, it has the intellectual horsepower, and it has the wherewithal to not only create a world-class Public Policy practice, but also start making world-class impact in India and elsewhere. The fact that the JSW School of Public Policy is now live at IIMA just adds the icing to the cake, and one would be hard pressed to find a more potent combination to make some serious positive impact in the public policy space.

In closing, I must thank Akhilesh who roped me in to collaborate on our collective journey of forming a public policy view for crypto in India. I would also like to thank the rest of the PP ASIG team, including Suhail, Vidhi and Anurag, and Prof Basant and Prof Anish, without whose support and involvement, our crypto journey would not have reached where we have today.

Till next time,
With best regards,
Kamal Gaur

Of Farewells and Welcomes…

As we approach the end of 2021 and prepare to usher in 2022, I also bid a fond farewell to my three-year stint as a founding alumni coordinator for the IIMA Public Policy ASIG. The sojourn commenced one fine afternoon in late 2018 when Professor Rakesh Basant phoned me out of the blue to introduce the ASIG concept and invite me aboard. It was an invitation I could not refuse. Needless to say, it has been a privilege to serve the alma mater in this capacity.

The three years have been very happy and, equally, very happening. My stint was enriched by too many faculty, staff, alumni, and students to acknowledge here, but you know who you are.

I extend a very warm welcome to the next alumni coordinator, Praveen PA, who joins my birthday twin and co-conspirator Akhilesh Tilotia at an opportune moment as we plan the 2.0 version of the Public Policy ASIG. Onward and upward!

Suhail Kassim
IIMA Public Policy ASIG Alumni Coordinator (2018–2021)

Praveen PA is 2004 batch PGP ABM alumni currently serving as a Director in Government of Telangana leading Aerospace and Defence industrial Sectors, with additional charge of Banking, Financial Services and Insurance (BFSI). His responsibilities include State level policy development, infrastructure planning, skill development, industry partnerships and investment promotion initiatives for the sectors. He is credited with attracting mega investments, initiating skilling partnerships with global universities, and bringing substantial visibility to Hyderabad Aerospace and Defence ecosystem. During his tenure, Telangana received the Best State awards from the Union Ministry of Civil Aviation for the "State with most progressive outlook to Aviation and Aerospace Sector", twice in a row in 2018 and 2020.

Previously, he worked in the private sector as Business Head at leading banking and financial services companies such as HSBC, EFL, IL&FS, Inditrade, NCDEX and NCMSL. Praveen is a recipient of the prestigious "Chevening Gurukul Fellow for Leadership and Excellence (2017) "granted by the UK Government and he successfully completed the residential programme from the Department of Politics and International Relations, University of Oxford, UK. He is a also a frequent speaker at various national and international forums.

Public Policy SIG

2021: Review of Progress: Akhilesh Tilotia and Suhail Kassim

PP ASIG Alumni Coordinators 2021

> *"It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of light, it was the season of darkness, it was the spring of hope, it was the winter of despair."*

– Charles Dickens, A Tale of Two Cities

Dickens aptly captured 2021 – the first full calendar year of COVID-19. As the world, and India, laboriously trudged along a rocky path to hopefulness, then despair, and now a sliver of light on the horizon – the need for a special interest group focused on public policy has never been higher. The 2020 COVID-19 series of PP ASIG had successfully concluded and was published in the Annual Report 2020. Like the rest of the world, we wanted to turn the page and look to the future. And so, in 2021, we organized several non-COVID-19-related activities.

The PP ASIG ran a Cryptocurrency webinar series to inform the forthcoming draft *"Cryptocurrency and Regulation of Official Digital Currency Bill"*. Seven webinars were held with eminent experts to look at emerging Cryptocurrency issues from multiple policy dimensions: overall perspectives (Shri Subhash Chandra Garg and Kamal Gaur), legal (Ashim Sood), exchanges (Sumit Gupta), startups (Sandeep Nailwal), taxation (Meyya Nagappan), and the international perspective (Erik Feyen). The consolidated takeaways are presented in this report.

This knowledge development series was conceptualized and executed at a very appropriate time. This body of work led to an invite from the Indian Parliamentary Standing Committee on Finance for IIMA PP ASIG to come forth as a witness in the hearing on "CryptoFinance: Opportunities and Challenges" on November 15, 2021, at Parliament Annexe, New Delhi. The PP ASIG was represented by Kamal Gaur, Akhilesh Tilotia, and Prof. Anish Sugathan. Hon'ble Members of Parliament mentioned that they expect more inputs from IIMA alumni on such complex topics.

The PP ASIG also organized wide-ranging deep-dives with experts on a raft of other "hot-button" topics. Shri Tarun Bajaj discussed the India Budget 2021-22. Joint Secretary Amber Dubey shared insights on the policymaking process in India, lateral entry into the civil service, and regulations for Drones. Shri Ishtiyaque Ahmed discussed Production Linked Incentives (PLIs). The consolidated takeaways from these deep-dives are also documented in this report.

Alumni expressed keen interest to write case studies. The PP ASIG convened an all-ASIG session on alumni-faculty partnerships for case study development with Professor Vijaya Sherry Chand. Subsequently, six alumni started drafting case studies on a range of topics: public procurement and PPPs, ESG, MSME automation, IOT/AI and Smart Cities, gas-based power generation, and agriculture. These case studies are in early stages of development.

PP ASIG alumni members, in their personal capacities, were also busy writing and publishing books and papers in 2021. These included, inter alia, the following:

- Akhilesh Tilotia published a book ***Through the Looking Glass*** and authored several **opinion pieces (OpEds)** in The Financial Express.
- Ankita Singh wrote a book (publicaton forthcoming) titled ***Economics of Land Governance: Unauthorised Occupation of Public Premises in India***.
- Harpreet Pruthi co-authored a paper (publication forthcoming) on ***Optimal Procurement Choices for Development of Public Infrastructure***.

A promising dialogue and collaboration with the IIMA-JSW School of Public Policy is emerging. Several meetings between School leadership and the PP ASIG have been held to explore avenues for collaboration and to enlist alumni support in making the School a grand success. All this was interspersed with a vibrant exchange of views in our periodic Zoom meetings and on the PP ASIG WhatsApp group, demonstrating the powerful utility of a shared "safe space" where we could all contribute to public policy in our own unique and constructive ways.
With two successful calendar years of the PP ASIG behind us, the focus is now to move to a higher gear in terms of activities as well as impact. We invite all IIMA alumni interested in public policy to join us in this exciting journey!

2022: Looking to the Future: Akhilesh Tilotia and Praveen PA

PP ASIG Alumni Coordinators 2022

As we look forward to a new year with the hope that the ravages of Covid-19 are behind us, we seek to create a more vibrant in-person ecosystem for the IIMA PP ASIG. There are three specific goals that we are setting for 2022:

- Expand the pool of interested and committed alumni, faculty, and students
- Build deep relationships at senior levels of policymaking
- Be the champion in leading public policy discourse for emerging sectors and themes

To achieve these goals, we also need to think deeply about membership of the PP ASIG, processes and systems, support from the Institute (both IIMA and JSW SPP), and financial sustainability.

Expand the pool of interested and committed alumni, faculty, and students

A key question for any emerging group is: why should people spend their valuable time and contribute their energies for the group? This year marked some interesting milestones which should increase the confidence of members that PP ASIG can offer them an important platform for collaboration and influencing policy. The deposition before the Parliamentary Standing Committee was a key highlight of the year – it concretely demonstrated the PP ASIG's direct ability to influence policy at the very highest levels. Similarly, working with Institute faculty, case studies and research papers were kickstarted this year. An informal arrangement with the JSW School of Public Policy (JSW SPP) exists to mutually leverage the strengths of the school and the ASIG. We also believe that association with the PP ASIG offers a strong CV point or LinkedIn credential. We can build on some of these over the years as the collaboration between all stakeholders deepens.

One aspect that requires some active engagement and investment is identifying tactical support in specific areas. For example: public policy work, by definition, relies on the written word. Over the last two years, the PP ASIG has created documents with hundreds of pages through the efforts of alumni. We need to consider how to bring in research assistants who can help with note taking and (more importantly) synthesising the ideas and recommendations. Another example: as the world now reopens, the logistical work involved in organizing events will increase (it will no longer be about just circulating a Zoom link but could also involve an in-person dimension): could the Institute (IIMA or JSW-SPP) offer enhanced logistical and locational support for the PP ASIG?

Funding (and fundraising) will also be increasingly important as the scope and mandate of the PP ASIG expands. As we delve deeper into topics, we need to find a way to be able to hire (typically on a part-time basis) experts who will contribute their expertise in shaping the basic understanding of the group and helping describe the narrative that would lead to meaningful policy design inputs – this will require investment of money and/or creating positions where such experts can be housed for specific time durations.

Given the dynamics of the pandemic, we had a WhatsApp group-based membership of IIMA PP ASIG. This has led to a relatively wide reach – the group has 60+ members. WhatsApp makes it very easy to engage and comment on various topics. As we gradually return to a (partly or wholly) in-person world, we aspire to move from episodic digital involvement to active physical participation of alumni, faculty, and students. In this regard, we may wish to define a "member" more concretely. For example, membership benefits could be tiered and could accrue in recognition of the efforts put in by the member. This needs to be deliberated and a process put in place.

Build deep relationships at senior levels of policymaking

A key learning over the last two years, and further underscored by Amber Dubey in his conversation, is that policymaking happens top-down. To push for any change, the PP ASIG needs to be present with the set of policymakers who can make a difference. Three specific suggestions for accomplishing this include:

- Convening an annual flagship event with high-level policy makers (possibly at Vastrapur campus): this can be a joint exercise between student public policy clubs (PGP and PGPX), the Institute (IIMA and JSW SPP), and IIMA PP ASIG.

- Ensure that the notes and reports of the IIMA ASIG reach policy makers. for starters, the 2020 annual report had been circulated to key policymakers. We will update and expand our database of policymakers to facilitate wider recognition of the PP ASIG's contributions in the public policy space. Of course, this will necessitate deep social media engagement and campaigns, which in turn will require additional talent and time to ensure success.
- IIMA PP ASIG should be positioned and viewed as a forum for policymakers to access deep expertise. Building on the invite from the Parliamentary Standing Committee on Finance, over time, the PP ASIG should get invited to such forums, industry body events, working committees, etc.

Be the champion in leading public policy discourse for emerging sectors

Organizations get shaped by their experiences in their formative years. PP ASIG had a spectacular run with its crypto series having a direct impact on policy making.

This offers an interesting opportunity for the PP ASIG to build a differentiated positioning compared to many other public policy think-tanks and groups. PP ASIG can collaborate with the JSW SPP to create a credible, impartial, research-oriented forum for sunrise industries.

As India races towards the USD 5 trillion GDP and beyond, and the gales of climate change and Industrial Revolution 4.0 change our lives, many new business models and industries will evolve. These new industries are typically led by a younger generation who approach the industry from a consumer problem-solving and technology perspective. Many young entrepreneurs have very little understanding of, and exposure to, public policy processes and concerns. Emerging from an ecosystem of capitalism and consumerism, they also do not have deep relationships in the public policy ecosystem of politicians (ministers), bureaucrats (both centre and state), and policy advocates (think-tanks, academia, lawyers, etc.).

Such a think-tank can create a "safe place" for such new industries to interface with the public policy ecosystem. To use a WIMWI analogy, we could consider this as an incubation centre for public policy for new sectors – just like CIIE is an incubation centre for new business models.

If we were to go down this path, we can consider starting with sectors like (for example) drones, AI/ML, Net-Zero/transition industries like electric vehicles and smart grids. As we build expertise in these sectors, individual (or a small group of) members can continue to deepen their specialization in the public policy aspect of these industries.

Conclusion

As we build IIMA PP ASIG into a deeper and more central role in the public policy space in India, we need to start giving it a more concrete shape.

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IIM AHMEDABAD
IIMA ALUMNI
Public Policy SIG

PP ASIG Articles in The WIMWIAN Magazine

1. **June 2021: An article on the session by Prof. Vijaya Sherry Chand on "Alumni-faculty Partnerships for Case Study Development"**

ENGAGING IIMA ALUMNI FOR CASE STUDY DEVELOPMENT

The IIMA Public Policy Alumni Special Interest Group (PP-ASIG) convenes IIMA alumni across the globe on a common platform to facilitate conversations and exchange ideas around public policy, stir innovation, and further amplify the public and social contributions of IIMA. Several PP-ASIG members expressed keen interest in co-authoring case studies on contemporary public policy topics.

Accordingly, on April 1, 2021, the PP-ASIG organized a masterclass on "Alumni-Faculty Partnerships for Case Study Development" with Professor Vijaya Sherry Chand, Chairperson of the Ravi J. Matthai Centre for Educational Innovation at IIMA. This was an alumni-only zoom event and over 50 IIMA alumni participated. The masterclass was opened by Professor Rakesh Basant who introduced the topic. Thereafter, Professor Chand took the audience through the nuts-and-bolts of how to identify, frame, structure, and write a case.

A case is defined as a classroom instrument which is based on real life. No fictional events are allowed. The idea is to "bring the field to the class" and, therefore, the case should be based on real organizations, real people, and real situations. A case is "good" to the extent it helps a student *learn* and *do*.

The audience was introduced to the different types of cases, the basic framework of a "good" case study, protocols to be adopted, and – crucially – how the author should position him/herself as a non-evaluative case writer who is representative of the learner.

The session went on to provide practical "how-to" tips, tricks, and guidelines for writing a case. The session also covered what a case study is *not*. The faculty regaled the audience with interesting anecdotes. Two short real-world case studies were introduced and dissected to bring home important perspectives.

The audience asked questions on a range of topics, including the length, global versus local, how to publish a case, what support is provided by the IIMA Case Center, how to identify partners and co-authors, and how to collect data and materials for the case.

The session was a refreshing perspective for the participating alumni, all of whom had been exposed to several hundred cases during their IIMA days – but not to the process of actually writing a case study! This highly enlightening and informative session took the audience back to their campus days and stimulated a keen desire in alumni to collaborate and write actual cases based on their own experiences and interests.

YouTube link to the webinar: https://bit.ly/3tQFjs7

For more information, please email at pp-asig@iima.ac.in.

2. October 2021: An article by Kamal Gaur, crypto series coordinator

THE BLOCKCHAIN BUTTERFLY EFFECT

Contributed by Mr Kamal Gaur (PGP 2004)

The IIMA Public Policy Alumni Special Interest Group is currently running a webinar series to understand the cryptocurrency space and come up with public policy recommendations for India.

It's a uniquely interesting problem to tackle – the entire industry is less than 13 years old – Satoshi Nakamoto's seminal white paper on Bitcoin released on 31-Oct-2008 just after the global financial crisis hit. The crypto industry has since mushroomed from 1 cryptocurrency to over 12,000, with cryptocurrency market caps going from near worthless to a combined value of more than $2.5 trillion (May-2021). Along the way, cryptocurrencies have captured the imagination of people everywhere (estimated at ~300 mn, or 3.9%).

People have adopted cryptocurrencies for multiple reasons – Bitcoin was the first digital-born native currency that worked seamlessly across borders in a fraction of the time that traditional currencies took. You could move money at the click of a button, publicly yet anonymously, from anywhere in the world. Crypto offered the ability to control your own money outside of confines of traditional financial ecosystems. Cryptos like Bitcoin were coded into existence with a fixed supply that no central bank could dilute through quantitative easing. For millennials & digital natives, cryptocurrencies felt infinitely better than traditional money – readily portable & infinitesimally divisible – invisible in the real world with a minimal fear of confiscation.

Initially crypto was adopted by people curious enough to participate in nothing more than a funny money experiment. Crypto adoption took off on the dark web as its participants sought digital money that came without traditional forms of traceability. Later as law enforcement agencies started analysing public blockchains, dark web transactions & money laundering trails became far more traceable.

From a macro point of view, you could say crypto initially captured the imagination of tech-savvy early adopters, who discovered the wealth generation potential of crypto adoption. This discovery helped capture the attention of financially-savvy early adopters, who identified cryptocurrency as one of the best investment opportunities of the past decade. Crypto adoption has spread out in multiple directions since then – we're nowhere near mass adoption yet, but if history is any indicator, it will happen slowly but surely at first, and then all of a sudden.

We've seen some watershed moments in the last few years - one was back in 2017 when Bitcoin prices had blown past $1500 for the first time. Bitcoin peaked at $20K in 2017, then dropped precipitously almost overnight. In hindsight, it was likely the introduction of bitcoin futures in late 2017 that allowed skepticism to enter the markets and temper the excitability of the crypto space.

2017 was also when the ICO (Initial Coin Offering) boom made people realize they could leverage the crypto space as a global peer-to-peer crowdfunding marketplace without the regulations of capital markets. Interestingly, crypto fundraising through ICOs overlapped with the bull run, so when the markets fell, it did in the ICOs too. When the dust settled, billions of dollars of crypto were worth a fraction of the value at fundraise time, which had a knock-on effect on startup runways. The ICO boom also had its fair share of scam projects that raised $$$ with nothing more than flashy websites and obscure whitepapers. Nonetheless, the ICO boom and bust in 2017-2018 helped the crypto space consolidate around better projects as fly-by-night ones faded into oblivion.

The 2020-21 crypto bull run has been about Decentralized Finance (DeFi) and Non-Fungible Tokens (NFTs). DeFi is peer-to-peer participation in financial arrangements (like lending, investments, insurance) without centralized entities (like banks) to hold your funds. DeFi grew 100x in Total Value Locked (TVL) in 18 months – from <$1 billion (Apr-2020) to ~$100 billion (Sep-2021). NFTs are about ownership of digital assets, publicly visible & accessible, yet scarce & unique (hence non-fungible). NFTs introduce scarcity in a digital world where replication costs have been zero-to-none. NFTs will likely have an impact beyond art/collectibles because of its potential to capture anything unique that benefits from transparent & public tokenization (including real estate & real-world assets)

It is widely believed that blockchain technology that underpins cryptocurrency will have far-reaching impact beyond financial ecosystems – and will reinvent the world in other areas. 2020 showed institutional investors like Microstrategy, Square & Tesla willing to buy Bitcoin on their books with public money. Global banks have started enabling high-net-worth clients with exposure to crypto markets. 2021 has seen El Salvador take the first step ever by a country to adopt Bitcoin as 'legal tender'. The crypto space continues to get more real, with a growing demand for positive & clear regulations from multiple quarters – including a growing global retail investor community that expects countries won't exclude them from this once-in-a-lifetime wealth creation opportunity.

Closer home, India finds itself at an interesting point in its journey with a young (<30 average age) and a growing population that overtakes China before 2030. Add to boot, the largest-growing middle class, as well as the largest English-speaking population anywhere.

India's Reserve Bank isn't a fan of cryptocurrencies though – its 2018 circular banned member banks from servicing cryptocurrency exchanges, effectively cutting off supply of fiat funds into/out of Indian crypto markets. 2 years later, the Supreme Court ruled the RBI circular unconstitutional, effectively overturning it. This coincided with the global economic downturn trigged by COVID-19 lockdowns, which led to bullish recoveries over the last 18 months. Along with equity markets, cryptocurrencies have also been on a tear – combined market caps grew 15x in 15 months (Mar-2020 to May-2021).

It is important that India come up with a public policy that enables the best of crypto to thrive, whilst regulating riskier parts of crypto to protect vulnerable sections of society – especially since blockchain will underpin many important future solutions & provide enormous wealth generation opportunities. The IIMA PP ASIG will continue down this exploration path towards coming up with public policy recommendations for crypto in India. For updates, follow us at www.iima.ac.in/jsw-spp <Full article at wimwian.iima.ac.in>

Takeaway notes: Second Annual General Meeting 2021

November 27, 2021 – 11AM IST – Zoom Call

Anurag Choudhury (Associate VP - AEP) kickstarted the meeting with a warm introduction to all the participants. He highlighted the role being played by IIMA in seeding the various Alumni Special Interest Groups (ASIGs) and how the Public Policy (PP) ASIG had shaped up through the pandemic.

Suhail Kassim (Outgoing Alumni Coordinator) presented the progress of the PP-ASIG. He highlighted the activities undertaken by the PP-ASIG in the calendar year 2021. Four key sets of activities were held during the year: (a) a series of seven webinars on 'The Cryptocurrency and Regulation of Official Digital Currency Bill' with key policy makers, thinkers, and practitioners; (b) invitation to PP-ASIG to depose to the Parliamentary Standing Committee for Finance – CryptoFinance; (c) discussion on topics like Indian Budget, drone policies, lateral entry in government of India, Production Linked Incentives Schemes (PLIS) with experts; and (d) thought-leadership, including plans for collaboration with institute on case-studies, working papers, books, etc.

Akhilesh Tilotia (Alumni Coordinator) talked about the way forward for the PP-ASIG and put forward three questions for discussion:

1. How do we now build on the early success of the PP-ASIG by inducting and energizing a larger number of Members (alumni, faculty and students)?
   - Create an engaging platform to allow members express their views and impact public policy
   - Pick up a few key topics and work towards building a body of knowledge, beyond just webinars
   - Contribute to the newsletters by student club or The WIMWIAN magazine or write papers
2. Deeply invest in building, deepening, and broadening the relationships at the senior levels of Indian policymaking
3. Think about the industry and sectors the PP-ASIG should concentrate on in the coming year (2022), based on principles of bipartisanship, informed free speech, and data-based

and analytical approaches. It may be useful to concentrate on nascent sectors like we did with Crypto.

Prof. Anish Sugathan (Faculty Coordinator) highlighted the issues that PP-ASIG needs to consider:

1. What does PP-ASIG stand for? What positioning does PP-ASIG have? There are (a) Policymakers, (b) Technical experts, and (c) Industry bodies
2. With great power comes need for greater paperwork (bureaucracy and accountability). How do we create the processes for ideation, curation? Which topics should be picked up?
3. Going forward, scaling is a challenge. Administrative and secretarial resources are available, but how do we build expertise? The pool for expertise is precisely this group's members and their contacts. How do we incentivize members?

Prof. Rakesh Basant (Faculty Coordinator) highlighted the following points:

1. Broaden and deepen the connect with the institute: faculty, JSW SPP, Public Policy club
2. All ASIGs cannot be uniform. They are at different levels of evolution. Some mechanism to share learnings and practices between ASIGs can be created. Each ASIG will have a character of its own and will evolve on their own - so not (yet) a good time to start creating rigid processes and structure.
3. We should continue to contribute to country and institute and not be partisan. We need to bring credible views on policy making.
4. Should not focus only on the very early-stage sectors, but also on some long-standing knotty issues like say privatization or PLIs. Try to balance between the two. CIIE used to focus where market failures and policy failures are very high.

Prof. Saral Mukherjee (Dean, AER) addressed the PP-ASIG as the most productive ASIG - in volume of work and in terms of documentation (e.g., voluminous Annual Report). He emphasized on –

– Linkage with practice - strengthen processes
– More awareness and involvement of faculties
– "Pull" to bring in more alumni for the PP-ASIG

Gopal Iyer (VP, JSW SPP) appreciated the interactions and association he had with PP-ASIG in past six months and suggested to capitalize and build on the collaboration. Based on where can

JSW SPP create impact and how to collaborate on the dialogue series, how could PP-ASIG get more involved?

The JSW SPP will be open to collaborate more formally and happy to bring people on board as appropriate going forward. The short-term plans of the JSW SPP include -

1. Since there is low probability of launching Masters program in the next one year, it will be launching Micro courses on a nine-month hybrid model on the subjects like policy design, futures thinking, leadership in public policy.
2. Planning to grow the team with more professors in the management/policy area.
3. Created a requirement of visiting fellow who will be on campus for a year for research, etc.

Prof. Namrata Chindarkar (Chair, JSW SPP) suggested the following-

- Continue with the dialogue on policy areas: cutting edge and future oriented.
- We should not be playing a catch-up game in terms of policymaking and talk about the policy issues that matter.
- Many alumni want to associate with PP-ASIG for multi-stakeholder dialogue. Gaming, ESG, health-tech, sustainable finance are some of the unique intersections that PP-ASIG can collaborate with and participate in.

Siddharth Matta (Coordinator of the IIMA Students Public Policy Club) highlighted that PP Club is composed of three cells: Speaker Cell, Editorial Cell, and Live Project Cell. The club can collaborate with PP-ASIG specifically for live project cells, to get in touch with policy think tanks for the PGP1 projects.

Thoughts, suggestions, and inputs by IIMA PP ASIG Members:

1. **Kamal Gaur:**
    - How do we define representation - are views of PP-ASIG members, their own personal views, or PP-ASIG's views, or IIMA views? How do we decide?
    - How do we co-opt stakeholders of the PP-ASIG for their inputs on bleeding edge topics, where domain understanding might be lacking/absent?
    - How do we leverage PP-ASIG and IIMA to draw upon a wider/deeper body of knowledge that can bring domain expertise in adjacent domains that can get impacted?

- Statement - Access to resources could have helped us supplement our qualitative perspectives with quantitative inputs.
- What is the well-defined process that helps define 'membership'?
- How can we collectively decide which members have write/edit/read access on which topics?

2. **Vikram Mazumdar:**
   - Public health and land are key areas. How can we bring ourselves to bear on this?
   - Can we bring in cross connect between sectors: like health and drones; like health and tourism?

3. **Ankita Singh:**
   - Support from the institute - For ideas in new and niche areas, can there be more engagement with Institute faculties?
   - Can we get access to the Vikram Sarabhai library?
   - How to quickly connect with experts from the PP-ASIG? Is there a repository of expertise and interests?

4. **Harpreet Pruthi:**
   - Faculty association is important in case study development by alumni.
   - How do we build continuity of policy? We should think about maintaining structures for continuity of knowledge like knowledge repository.

Praveen PA (Incoming Alumni Coordinator) introduced himself and officially thanked Suhail Kassim (Outgoing Alumni Coordinator) for his contributions, as well as all the PP-ASIG members and professors. He highlighted that the PP-ASIG focus for the upcoming year could be on following-

- More engagement with faculties, students and JSW SPP
- More connect of the central government with the Institute
- Building up very highly engaged community
- Exploring partnerships with other think-tanks and other ASIGs
- Working with independent projects of students

Takeaway notes from the webinars

1. Webinar Series on 'The Cryptocurrency and Regulation of Official Digital Currency Bill'

1.1 Blockchain, Bitcoin and Cryptocurrency

Kamal Gaur
Date: June 20, 2021
YouTube link: https://youtu.be/SJGMKNCi2fE

Defining Money, Currency and Value

- The functional definition of 'money' includes medium of exchange, unit of account, store of value or as a standard of deferred payment. To qualify as 'money', there are primarily seven characteristics – fungible, durable, portable, uniform, limited supply, acceptable and divisible.
- Currency, on the other side, refers to a system of "money" in common use, especially for people in a nation. The emphasis on especially, reflects the non-binding aspect of localized use. The segregation of commodity money and fiat money is based on multiple factors. While the commodity money derives its value from themselves as well as their functional use as medium of exchange, the fiat currency does not hold intrinsic value, instead it derives its value by being declared by government to be legal tender.
- Interestingly, the role of trust in the value of the currency assumes significance and forms the basis for money management in banking system. There is always some non-zero probability of misplaced trust leading to loss of money.
- **Till such time** a set of people mutually **agree to believe** in the value of a medium of exchange, **it will continue to hold value.** One of the interesting examples being that of Mizoram in after-math of demonetization, where people reverted to hand-written coupons till the supply of cash was restored.
- Post the GFC 2008, the Dodd-Frank Act (US) came into action to protect people from a similar financial crisis. Loss of trust in the banking system could potentially lead to Bank run, Bank panic or even a systemic banking crisis.

Bitcoin and its ‘overnight’ success

- “Every overnight success is 10 years in the making” – Tom Clancy. The Bitcoin whitepaper – “Bitcoin: A Peer-to-Peer Electronic Cash system” was published in 2008, post the GFC by Satoshi Nakamoto.
- Important characteristics of Bitcoin
    - Decentralized: It is not controlled by any single entity
    - Limited Supply: The code is designed to limit supply of bitcoins to 21 million
    - Open-source: The code is open-source and verifiable by anyone
- Bitcoin (BTC) as an alternative transfer route: With participating banks, card networks, exchanges charging 2-5% as transaction charges, Bitcoin undercuts this entire market by not linking the cost to the transaction amount. In simpler words, millions/billions of transfers could take place at just ten dollars’ worth of fees.
- Interest from institutions and governments across the world: Square, MicroStrategy, PayPal and Tesla are some of the players that have opened doors to accept BTC either in the form of reserve currency or medium of payment. In June 2021, El Salvador announced their acceptance of BTC as legal tender.
- Getting a chunk of the largest wealth transfer: Close to 70% of +$60 trillion worth of assets is expected to be transferred from the Baby Boomer generation to Millennials in the next 10 years. BTC is expected to capture some piece of this big pie, with millennials showing interest in crypto assets.

Valuation of BTC – 4 major frameworks

- Tulip Mania [Discarded] – BTC’s rise is equivalent to Tulip Mania, offering no real competitive advantage to existing monetary good, prescribing long term target price of $0
- Monetary Technology [Quite Possible] – BTC’s use as monetary technology, offering value to tech savvy and libertarian minded people, prescribing long term target price of $10k- $100k
- Monetary Good [Quite Possible] – BTC disrupting its closest monetary cousin, gold, due to its superior attributes, prescribing long term target price of $300k - $1 mn
- World’s Reserve Currency [Possible post the acceptance as Monetary Good]- Becoming the world’s favorite collateral asset, draining value out of bonds, real-estate, precious metals, and art, prescribing long term target price of +$10 mn

Fundamentals of network - Blockchain, Nodes and Mining

- **Blockchain**
  - Mathematical way of managing ledger of accounts without needing to trust a single 3rd party – trick lies in trusting the majority from a pool of 3rd parties
  - Every few minutes, set of transactions is verified in a 'block' of information, and gets added to the end of 'chain' of 'blocks' that have been verified since the inception
  - The new block not only contains the set of transactions, but also a link to the block that precedes this block. A chronological chain of transactions is created because of this exercise
- The ultimate objective is to not let anyone tamper with the records, leading to set up of **'nodes'** that are not controlled by a single party
  - Nodes are machines (servers/rigs) connected to the BTC network over the internet
  - Responsible for two things – keeping a copy of the ledger and updating the ledger at their end every 10 minutes
- Incentivizing nodes to keep the system running: Incentives must be paid in a fair, meritocratic manner, so that no one feels cheated, and everyone has some skin in the game, leading to the concept of **'Mining'**
  - Mining is combination of two things – tallying the transactions since the last block, and solving a mathematical puzzle
  - The key to get the reward (incentive) is to solve the puzzle first. The first node to get the correct answer gets to add the block to the network, and receive reward in two parts – freshly minted BTC (current rate – 6.25 BTC per block) and transaction fees of all the transactions present in the added block
  - This cycle repeats every 10 minutes (or so)
- The miners must solve a complex computational math problem, also called a **Proof of Work**. It is a series of guesses, one after another, but that require time and computational horsepower. This ensures the **difficulty** level of mining which in turns ensures robustness of the entire blockchain.
  - The amount of computational power required now to mine the blocks now requires specialized rigs, preferably in cooler countries like Iceland where the cost of cooling is not very high.

- **Block rewards** are the outcomes of the mining work done on the bitcoin networks. These rewards are in the form of blocks, and they get halved after the mining of every 210,000 blocks (roughly every 4 years).
  - Bitcoin started with a 50 BTC rewards, which currently stands at 6.25 BTC (May 2020)
  - Approximately 18.73 million bitcoins have been mined
- Once the network stops generating new bitcoins (in 2140), the only source of incentives will be transaction fees that accompany the transactions in each block
  - It is supposed that by that time the network will be big enough to ensure that the transaction fees will suffice to make the nodes profitable
- The block mining and transaction fee are the solution which incentivizes the growth and adoption of bitcoin by different stakeholders

Bitcoins in the real world

- Bitcoin was the base product which started the crypto revolution in the financial world. It is still the king as it has continued to be trustworthy, reliable and influence free.
- However various other cryptos have evolved from the learnings of bitcoins. Few of the notable examples are –
  - Ethereum – second most popular blockchain network which utilizes the concept of programmable language and is highly useful in uses such as smart contracts
  - Tether – A stable coin pegged to the USD
  - Binance Coin – Issued by the Binance crypto exchange
  - Dogecoin – In news since last year, Doge started as an internet "meme". Used as tipping system for high quality content on Reddit and Twitter.
- Bitcoin is held in real world in an account, called as **wallet**, with a **private key** – to leverage the strengths of the cryptography
  - It works on the concept of unidirectional function of encrypting the messages by a public key and decrypting only by a means of private key
  - Therefore, the most important information while handling bitcoin is an account address and the private key
  - The safety of the private key must be ensured to access the bitcoin balance in the wallet
- This is where **cryptocurrency exchanges** enter.

- These exchanges takeover the cumbersome task involved in accessing a wallet address with the private key every time you want to access the same
- They maintain a single wallet with them which can be accessed with our email address and password
- However, this also makes them susceptible to cyber-attacks
- A point to note is that while the exchanges have suffered cyber-attacks, bitcoin as a network has never been hacked
- Therefore, to ensure safety of the bitcoins, it is suggested to remove the bitcoins from exchanges to our own wallets

- As the bitcoin is a decentralized network with no singular authority to overlook the working, the updates to the networks and protocols are taken by a decentralized group of software experts. These updates in the **forks** are rolled out regularly. If everybody agrees to the same it is called as a *soft* fork, while if it there is no consensus, it is called as a *hard* fork – which can lead to split in chains (e.g., Bitcoin into Bitcoin and Bitcoin Cash, Ethereum into Ethereum and Ethereum Classic). In many instances, it is a nice free windfall of extra value.

Bitcoin in India

- With growing popularity of bitcoins in India, the question of legality of bitcoins and other cryptocurrencies in India arose. The government responded by refusing to recognize it as a legal tender and RBI issued a notification in 2018 to all its member banks to stop serving crypto exchanges in India. News articles indicated that the government was looking to take all measure to eliminate the use of the cryptocurrencies in financing illegitimate activities, or as part of the payment system.
  - The crypto exchanges approached the Supreme Court of India against the RBI notification against the ground that it violated Indian Constitution on two grounds – Article 19(1) – Right to carry on any occupation, trade or business and Article 14 – Prohibiting discrimination and mandating equal protection of law to all.
  - The Supreme Court directed the Union of India to come up with clear-cut policy statements regarding bitcoins and other cryptocurrencies
  - On 4th March 2020, the Supreme Court overturned the RBI notification calling it unconstitutional

- As the exchanges started facing issues with banks again, the RBI clarified in May 2021 that as per the above stated SC ruling, the 2018 notification should no longer be referenced to by the banks
- All these news about banning created a lot of fear in the crypto community in India. This led to various exchanges shutting down, moving out of India, or adopting innovative models of P2P exchanges.
- This question about the legality of bitcoin is not exclusive to India and various other countries around the globe are dealing with it
  - However, very few countries have banned it legally
  - On the other hand, El Salvador has given BTC the status of legal tender
- Indian government introduced the draft cryptocurrency bill in 2019 which went to the extent of criminalizing the possession of bitcoins
  - The draft cryptocurrency bill, 2021 is not out in the public domain yet. However, it is apparent that the use of the term "currency" is causing a lot of friction between the crypto community and the government and regulatory bodies.

The How of Participation

- **Entering the crypto world**
  - Find a trusted crypto exchange which undertakes proper KYC. Lack of KYC only breeds distrust in the system.
    - The exchange that features the preferable cryptocurrencies should be given priority
  - Find a fiat mechanism that works for you. (e.g., NEFT in India)
  - Crypto holdings can be easily moved from one exchange to another
  - However, as already mentioned earlier, it is better if the crypto is not held in exchanges for long period of time. They should be moved to paper wallets or hardware wallets.
  - But is the point too high to enter now?
    - Since bitcoins can be bought in smaller fractions known as **satoshi**, the price of 1 unit of Bitcoin is not the correct attribute to focus on – the decision should be made on the expected percentage profit derived by an appreciation of the asset

- **Exiting the crypto world**
  - You can either use the crypto for making payments in exchange of goods or services or liquidate them by selling them on crypto exchanges
  - With regards to taxability, there is no formal guidance by Income Tax Department on the same
    - However, Chartered Accountants advise that active traders should show the income under "Income from other sources"
    - If not an active trader – it can be added to "short term/long term" gains based on timelines.
    - For calculating timeline FIFO (First In First Out) principles to be followed
    - Note: No clear definition of active trader is out there yet

Criticisms of Bitcoin

- **Bitcoins as a scam**
  - Detractors call cryptocurrencies as a scam, one of the three kinds – get-rich-quick; Ponzi scheme; fraud initial coin offerings
    - The point to note however is that the same is happening with the cash or other digital money around the world and cryptocurrencies have played no role to accentuate the issue
    - It is dependent on individual diligence before investing in the market
- **Bitcoin is a bubble**
  - They tend to call it as just another bubble, linking it to the infamous tulip bubble
  - However, the following points need to be noted before calling it a bubble -
    - it has already recovered from three boom-and-bust cycles in less than a decade
    - it has solid technological fundamentals backing it
    - it is being widely adapted around the globe
  - Therefore, it is wrong to dismiss Bitcoin as just a bubble
- **The greater fool theory**
  - When people are selling a not so useful product to a greater fool at higher prices who values it more
  - But the same accusations were hurled at the crude oil industry in the late 19th century

- However, as the history showed us, it was only a matter of time before we start utilizing the true potential of bitcoins and blockchains. Ethereum and its applications have started scratching the surface.

- **Funding of terror**
  - This is a false narrative as data shows that 0.34% of all the crypto is used in criminal activity as compared to a 6-times larger share of 2% when it comes to fiat currencies.
  - The non-traceable fiat currency is preferred for the purpose
- **High energy consumption**
  - The energy consumed by the Bitcoin network is primarily to ensure smooth functioning of the proof-of-work (PoW) consensus mechanism of the network
  - Bitcoin proponents believe this energy expenditure is a small price to pay for a **censorship-resistant digital bearer asset**, one that lets citizens of the world escape a broken centralized monetary system
  - This energy expenditure also lets Bitcoin become the **sixth largest base money** on Earth (excluding gold and silver), with only the U.S., China, Eurozone, Japan, and the U.K. ahead of it

At the end, we are seeing greater adoption of bitcoins across the spectrum of society. The financial institutions have also started adopting cryptocurrencies such as bitcoins as a class of asset investment. With its technological fundamentals and increasing adoption, bitcoin looks primed for future success.

1.2 Crypto in India: The legal perspective

Ashim Sood in conversation with Kamal Gaur
Date: June 26, 2021
YouTube link: https://youtu.be/mmQEFVyakLM

The history of the court case: IAMAI vs RBI

There were a set of hearings on the 2018 RBI circular that by April 2019 had reached a situation where the senior judge of the two-judge bench has requested RBI to "reconsider" its stance. Then, it so happened that the bench was reconstituted (it is a routine procedure) and the hearings restarted from scratch again from January 2020.

Some points to note:

The legal system is typically **conservative**: it can engage more easily with something that has a 150-year-old history but can find it difficult to consider something which may be a 150-year-future technology. Given India's evolution in the field of technology, it can engage on par with the world.

Life of a case depends on the view of the judge. For example, in the case of civil liberties, judges tend to prioritise. In this case, hence **civil liberty** was argued as the reason for the court as it impacted the ability to do business and earn livelihood for the exchanges. It is not always easy to get the court to consider such a motion and, in this case too, this was a challenge.

This is only the second time in India's history that RBI's directive was overturned – so there was **only one precedence of a successful case against the RBI**. Over the last many decades that "monetary policy issues" are left by the courts to the expert regulators. On issues of "economic legislations", courts are little more lenient in upholding the regulations than on issues of fundamental rights. Explaining crypto to very senior learned judges, who are masters in law but not necessarily of technology, can be a challenge.

It is widely recognized that there are **serious and justified issues** (for example, money laundering, ransomware) with cryptocurrencies and hence all the varying perspectives must be considered when finally laying down the law (whether by the Parliament, regulator, or the courts). The law and principles that the Supreme Court lays down will last for many years. If responsible officers of government and RBI say that something is a challenge, court cannot take that lightly.

Legal strategy:

A key aspect of the legal strategy was to go after the decision-making process and not just the decision of the RBI. The legal strategy rested on the idea: “regulate, don't prohibit”. What can be regulated, should not be banned.

Argument 1: Only the Parliament can make policy on issues which have many aspects to consider. RBI has been founded on an Act and has its role defined: RBI banning any activity on its own is usurping the power of the Parliament.

An interesting hypothetical example of RBI taking on a stance that “alcohol is bad” and hence “banks will not do business with alcohol firms” was discussed. Such a stance which disallows access to banking system could spell an end of the business and the judges see this as akin to a ban. More important, this puts RBI in a position to decide social policy (on prohibition), which is not intended in the RBI Act.

The argument was known to be weak since cryptocurrency could be shown by RBI to be a monetary matter on which it has jurisdiction.

Argument 2: Even if it was in its power, it needs to “satisfy” itself in an objective manner. The doctrine of satisfaction means that reasonable material must be brought to bear in the decision making to come to an objective conclusion, which any other reasonable person would also have come to.

A Right to Information (RTI) application had shown that RBI had constituted no committee. In a 2017 report of RBI, it had described cryptocurrency as a “fringe activity” even as it proceeded to ban it in 2018. In the court, the RBI could not prove the harm caused by cryptocurrency. This seemed to suggest that the “satisfaction” doctrine was, well, not satisfied.

Argument 3: Liberty and fundamental rights. If the impact of the actions of a regulation is to stop someone from doing an activity, it must be a "reasonable restriction". A ban is not a "reasonable restriction". A ban is a hard to justify as “proportionality” of regulations is a hallowed doctrine. This doctrine requires three things: (1) a legitimate state interest for the regulation, (2) the measure must be narrowly tailored to reach that interest, and (3) demonstration to the court that this measure is the only (or the least intrusive way) to reach the goal.

From the SC Garg Committee minutes, it appeared that RBI (and CBDT) were clear that they wanted to ban cryptocurrency. The Department of Economic Affairs (DEA) of the Ministry of Finance (MOF), Government of India in its note had said that India is a growing powerhouse in information technology and to make it unavailable to people seems excessive. DEA recognised the problems and mentioned that the issues can be dealt in a legislative manner: a ban on owning and trading seemed excessive. This exchange showed that there was an alternative to a ban.

Argument not taken: The argument that Parliament is considering a bill on cryptocurrencies was not taken. This was done so as not to take away the discussion that RBI had usurped power as part of its circular.

Issues to consider

- As a custodian of a monetary system, a new asset class may undermine monetary policy – this is a common concern that is expressed by central banker and bankers globally.
- Is crypto becoming an asset class or a currency? If it is the former, possibly the jurisdiction will lie with a market regulator, like say SEBI in India.
- Philosophically, societies need to reach a social equilibrium on how they want to wall our internet. Different societies may choose differently – and this may not sit as easily in a technological world where access can be difficult to control. However, as has been done in some countries, law can be weaponised to create fear which can limit access.
- Parliament could reach a conclusion and frame a law that "bans" cryptocurrency. In such a case, it is possible that the law will have grandfathering and sunset clauses (which means that actions done before the law came into effect are "grandfathered" or some time is given, say 3-6 months, to reverse the earlier actions.)
- A ban can take various shapes: (a) outright, (b) only as a currency, (c) as an asset class, (4) some other way. The judicial recourse to a legislative ban is to rely on the "proportionality" doctrine above.
- Given the recent concerns (ransomware, energy usage, etc.), the judicial challenge to a ban or strict regulations may have a higher bar to meet.
- Globally countries are now realizing that on issues of tech (privacy, anti-trust, currency, etc.) they will have to sink their teeth into the issues. This is a momentous moment for

global internet laws as various countries set up their own equilibrium, either individually or collectively.

PS: An interesting point: The use of the word currency in cryptocurrency is used to simplify the description – this is a common practice in the tech world. Just because a mouse is named as such does not make it a rodent; nor does a cloud become a watering bubble.

1.3 Crypto in India: The Industry Perspective

Sumit Gupta in conversation with Kamal Gaur
Date: August 1, 2021
YouTube link: https://youtu.be/6l2_QM34n4c

It has been exciting and challenging to run an exchange. Weekends is all about growing the team, talking to customers, going to colleges, etc. Full of challenges and ups and downs – in the journey of three years. RBI Circular came in three days prior to starting their business – had to innovate overnight.

Must be very competitive. Innovation catch-up must happen within the country but across the world. Must solve for challenges on regulatory and legal challenges as the industry takes shape. The journey is exciting and full of learning. You must really believe in crypto to keep yourself motivated: x-axis is survival and y-axis is innovation.

Life is fast paced as innovations keep happening. Crypto market runs 24/7 – there is no breathing space for maintenance! You must plan for capacity at odd hours also as the triggers can be from quite different sources. The platform, since it is dealing in money, must be updated.

Three important things happened:

- Apr 6, 2018 – RBI prohibited banks to work with crypto industry – almost killed the industry.
- Aug 15, 2018 – DCX Insta – peer-to-peer buying and selling
- Mar 4, 2020 – Supreme Court quashed the RBI circular (IAMAI and industry)

Banks and RBI: Banks were stuck in between where RBI has not given explicit instructions to go back to work with crypto industry while the crypto exchanges would quote the Supreme Court judgement. RBI has now left it to the individual banks to take care of various compliances: PMLA, etc.

Banks can also see the business potential. The lack of clarity from RBI can be challenging sometimes. Similarly, payment gateways have seen the large value in the business model. With the new circular, the bank and PGs will figure out how to make the business work. Any bank that figures out the way to work closely can benefit significantly. As banks get comfortable with the risks and figure out the risk management, there could be significant competition between banks – for example, note the changes taking place in the USA where the large banks are now offering various crypto products to their customers.

There are no laws in crypto as of now. And that is the challenge. Banks are moving slowly as the understand the dynamics. Crossing the bridge between fiat and crypto: even if there is one bridge, people will cross over. If more bridges can be built, the industry will be a lot more resilient.

Role of the ecosystem: Fintech companies have a major role to play in the crypto industry. They already have the distribution, KYC ability, wallets, etc. – so they can quickly onboard customers. So, companies like PhonePe, Google Pay, PayTm, etc. can open the floodgates for customers to come on. These entities can then partner with exchanges (like DCX). Like digital gold being sold by some of these entities, crypto can be a new asset class for them to sell. The friction here is clarity on the regulations from the regulators. This could lead to many start-ups also coming up.

Talent: It has been very difficult to find talent here in India. Many global companies are hiring remote talent in India. For young companies like DCX, this is a real challenge. One needs to consider the passion about the space. Anyone who is in the domain of technology (especially in areas like blockchain, etc.) is and will be in significant demand.

Regulations and KYC/AML: Crypto is an unregulated space in India. There are no given guidelines on the KYC. Exchanges follow the standard KYC process like PAN, Aadhaar, liveness check, UID, bank account verification (to tie it in with the real person), trade only via banking system, etc. RBI has allowed video KYC – is it possible to do this on scale as say, 50,000 customers come in daily.

CoinDCX uses on-chain monitoring tool to see the riskiness of the transactions like (a) are the coins coming from and going to the right wallets? (b) are the coins coming from a "stolen wallet", (c) compliance with sanction jurisdictions, (d) looking into suspicious behaviours, etc. Many of these are the basic/standard aspects of risk management. These tools will need to integrate with the global exchanges: new tools are coming in like Crypto Travel Tool, etc. Many of these tools will also start to become more standard. The idea will be to limit any illicit activities on the exchanges.

If the whole space must grow to mass adoption, the industry must work with regulators. If you put restrictions, it is not helpful. If someone is not doing a wrong need, what is the need for anonymity. The expectation is that the world regulators and companies will begin to reach some compromise.

Global: Japan is very progressive with respect to both crypto and crypto exchanges. El Salvador has made bitcoin into a legal tender. Countries like the UK, Australia and Singapore are also moving ahead quickly on this.

How to think about regulation? Since regulations typically lag technology, it is useful to not throttle innovation by putting in regulations upfront. Like in the internet boom, many websites did not survive but the underlying technology worked out and some became very large. Anything which is written in stone (i.e., low fluidity in regulations) can create challenges as the technology and tools are evolving rapidly.

"Crypto is not a currency/legal tender", as per RBI. And hence laws like FEMA are not applicable. With countries like El Salvador making bitcoin legal tender, can it now be considered "foreign currency"? As of now there is not even a classification: is it a store of value or medium of exchange? Is it an asset? A global body or an independent body looking at the industry and the regulators concerns can help create a common ground.

One way to think about bitcoin is that the customer is buying a "piece of code" – so this can be covered under Liberalized Remittance Scheme (LRS). Note that there is limited mining in India and so India is a demand-heavy market – if an import category can be created, then India-based premium on crypto will also start to come down.

Customer profile: Age group is broadly 20-34 (80% of customers are here) – "millennials love it – they don't like buying gold – you can buy bitcoins in minutes – it is a matter of pride". South India with its engineers and tech background has a higher proportion. Most people are bitcoin investors. Many users just buy and hold (Hold On for Dear Life - HODL) and don't necessarily trade actively. They have 3 million customers and roughly average investment size is USD 200 (Rs 15,000 or so). Traders are smaller in number but large in volumes; HODLers are large in numbers but show less turnover. CoinDCX wants to bring in a lot of HODLers.

How do you assess the strength of a crypto? Go by the fundamentals of the underlying token (crypto). As part of the listing process on the platform, CoinDCX has a bunch of filters which look at market cap, money movement, unique wallets, centralization, management of the token, etc. Follow your "research" as there is significant information asymmetry. While you might not see the P&L and Balance Sheet in the case of crypto (as you would in the case of companies), you can still track some "fundamentals" like market cap, long history, underlying technology, etc.

Smart contracts: There are some developments taking place in land registry, transport, etc. As of now, not seeing this in deployment as mass scale in India. The infrastructure deployment for blockchain will hopefully increase over the next few years. Just like you use internet today without knowing the TCP/IP protocols, etc. similarly, you should be able to use smart contracts without knowing much about blockchain.

1.4 Crypto in India: The Policy Perspective

Subhash Chandra Garg (IAS, Retd.) in conversation with Kamal Gaur and Akhilesh Tilotia

Date: August 21, 2021

YouTube link: https://youtu.be/eVzFJoGlrTo

Currency is primarily a medium of payment and is used to settle trade and other transactions. Anything which is acceptable to both buyers and sellers for settling payments can become currency. Widespread use of common currencies started with gold and other valuable metals. Thereafter we moved from metallic coins to paper notes. Presently, the paper currency issued by central banks and guaranteed by the sovereigns are primarily used to settle transactions. Cryptocurrencies especially bitcoin burst into the scene as currency and promised to facilitating making of payments and settle transactions, especially globally, effectively and with less cost and friction.

Money is a broader concept. It has two components: the cash you hold in the pocket and the deposits kept in banks. Both can be used to make payments. The moment bank accounts became digital, the payments by using the deposit in accounts became online/digital. Such transactions have massively increased by now everywhere in the world including India. Such transactions can be effected through multiple channels: for example, via UPI, IMPS, RTGS, NEFT, etc. More than 97% of payment and settlement transactions in India by value take place in digital form. Such digital transactions work well for domestic payments but do not effectively and efficiently solve the problem of international payments. This is because international payments involve two main problems: first, the complications in mechanics/ process of transferring money and the value of the payment made at the two ends.

Cryptocurrencies solve the first problem in transferring money internationally. Traditional methods involve multiple intermediaries (sending and receiving banks, intermediating international banks, messaging system like swift etc. across two different jurisdictions) and are therefore complex and costly. Cryptocurrencies because of its digital and shared ledger architecture simplify the payment transfer transaction. Cryptocurrencies, however, don't solve the value problem. In fact, by their own volatile nature, the cryptocurrencies complicate payment transactions. That is the reason, very few people and organisations use cryptocurrencies as currencies for making payments globally. In India hardly anyone does. A very large majority of current cryptocurrencies supporters are using crypto for storage of value (investment purpose) and not for effecting currency transactions. So, cryptocurrencies may not be able solve the issue of costless, frictionless global payment transactions.

The key feature of currencies (cryptocurrencies or paper currency) is keeping its value that is stable and to make it commonly accepted. Inflation is obverse of lack of maintenance of stable value of money. If money is stable, there is no inflation which builds confidence in the currency. Sovereigns and central banks maintain the stable value of currency/money by controlling supply in line with the growth of economy and its need for effecting transactions. As cryptocurrencies issuance by the private parties has no relation with the needs of economy, their values fluctuate depending upon what investors see as increase or decrease in its price. The problem of excessive volatility in private currencies (like Bitcoin which is not backed by a sovereign nation) can have wider implications on domestic economics. Time for digital currency has arrived. The alternative to private cryptocurrencies is official cryptocurrencies. In the context of cross border transfers, we will have to invent a common global currency which can be a global (digital) currency with sovereigns coming together. Or part currencies like special drawing rights (SDRs) of the International Monetary Fund (IMF) whose value is based on a basket of currencies can also be developed as a common global currency and if converted into digital SDRs, these could serve as global digital currencies. There could be other alternatives like an official stable coin.

Cryptocurrency vs Crypto assets

Financial world- assets, credits etc.- is quite fragile and fraud prone. Therefore, there is a sensitivity in financial world about use of world like bank or currency to describe a financial institution or an asset can cause. That is the reason why even use of bank is not allowed to be used for any institution which is not a bank because of its susceptibility to misinformation. Hence, usage of words which are used to denote confidence (like “bank”) are severely regulated. Likewise, use of nomenclature like “currency” are misleading and cause rightful concern with the regulators and policy makers. It is therefore quite necessary that crypto currencies are not described as currencies if these are not intended to be used as currencies or are not to be allowed to be used as currency.

In the Indian context, from an empirical perspective, it is observed that cryptocurrencies have been used as an asset, and not as a currency. Value of an asset need not be same across everyone.

In that sense, the value of assets also has a peculiar characteristic, which is that their value lies in the eye of the beholder or the holder. There are three types of crypto currencies/assets- a. which are designed/evolved primarily as currencies like bitcoin, b. which serve as valuable technology platform to provide services like Ethereum where you can use smart contracts to run financial services like decentralised finance or land registry system or whatever and third, which store digital assets or provide services.

RBI is a regulator of currency and not of assets – most assets, especially the assets which can be traded in the form of securities like equity, bonds, derivatives etc, are in the domain of SEBI. The moment crypto is recognized and trades as an asset and not as a currency, RBI would probably not have any issue. Having said so, credible steps, legal like banning and others will need to be taken to ensure that cryptos are not used as a currencies/money.

Acceptance and trading of cryptos as asset does not, however, mean that there would not be any public policy concerns left thereafter. People tend to blame the government in times of asset bubble bursts, for example, the tulip bubble or in the case of India, the plantation companies or Ponzi schemes of the mid-1990s. Even when recognised and allowed as an asset, governments will look to regulate cryptos appropriately so that bystanders, and uninformed people are not harmed. We will probably need appropriate legal framework to regulate crypto assets just as we manage derivatives as "securities" or regulation of trading in gold by converting gold assets to gold contracts to gold securities.

Private vs national digital currencies

When the report by the committee chaired by Mr. Garg (Report of the Committee to propose specific actions to be taken in relation to Virtual Currencies) came out in Feb 2019, the situation was quite different than it is today. There were two big public policy concerns at that time. Crypto currencies were widely seen as currency, which was susceptible to misuse by money launders and secondly, a lot of uninformed people were getting lured into investing in it motivated by the greed to make quick money.

The report therefore made distinction between three aspects- private cryptocurrencies, blockchain technology and official digital currency. The report talked positively about the digital currency as the future evolution of currency will be from paper to digital. The report in fact recommended a framework for development of official digital currency. The report also spoke highly positively for encouraging development of blockchain technology and its use in financial services. It was only the private crypto currencies which were recommended to be completely banned and punishment provided to its holders, miners, and traders, like the law currency provides for use and holding of counterfeit currencies.

As the world moves away from a unipolar power and some have also questioned the continued dominance of the USD as largely the sole reserve currency, there is need for working to develop an official global digital currency.

All currencies have been legitimised by promulgating appropriate legislations. The Coinage Act (1906) regulated the use of metallic coins as currency & Paper Currency Act (1862, followed by several other legislations later) – conferred the legal tender status on bank notes issued by the central bank/government and created the structure of fiat currency in India. Time has now come for legislation for creating a national digital currency.

The digital currency can be blockchain and cryptography-based currency or it could be in other digital forms like a demat currency. A decentralized model for cryptocurrency perhaps is not the most suited idea for a country like India as it is going to be very difficult and costly for small transactions. A credible and trusted counterparty like the government issuing a digital token/currency can obviate the need for a decentralized ledger where every transaction is recorded.

Difference between digital payments, which are quite common today and digital currency-based payments will be that while the digital payments today take place via bank accounts. Once there is a digital currency, there will be no need of making payments via the bank accounts. Payments could be made directly from one's digital wallet to another's digital wallet. National digital currency may also require supplementary laws to outlaw the use of private cryptocurrencies as currencies.

Issuing currency is a source of seigniorage for the central government (via the central bank). Hence, if the any private party issues currencies, it may have fiscal implications for both central bank and the government. This is one more reason why the governments and central banks would not allow private crypto or other digital currencies to work as currencies.

Internationalisation of Money

India is 100 % convertible when it comes to current account transactions and more than USD 500 bn of import and around USD 400 bn of export occurs in India's trade account annually. More monies flow in via services export and import and remittances. Hence, from the currency convertibility perspective, the fact that cryptocurrencies can move assets across borders seamlessly does not appear to be a material issue.

Further, Liberalised Remittances Scheme (LRS) or Foreign Exchange Management Act (FEMA) comes into picture when you are trying to transfer funds outside India. There are clear guidelines and limits on the use to which LRS funds can be used, which are quite liberal. If cryptocurrencies are classified as assets (and not currencies) and investment in it becomes legally permissible, then LRS or FEMA should not be material issues to worry about.

However, transfer of money, which is much easier domestically because of UPI, which has virtually integrated all bank accounts in one single databases, is still difficult on international side on account of there being no integration of bank accounts and because of no-common reference conversion value. For starters, there is no integration of international accounts, no easy way to value the money being transferred, no common currency that can be used by all parties, and to top it all up, there are multiple players involved across every stage of the transfer. The current day impediment is in the way the system has been structured and how the international financial system of regulated players works. Hence it is likely that in the longer run, even cryptocurrencies will suffer from the impediments.

To add to that, most current cryptocurrency supporters are using it as a store of value asset and not for transactions. As a result, even cryptocurrencies will not solve the issue plaguing the global transaction industry right now. So, until we resolve the problem of relative valuation of different countries' currencies, this issue is not going away.

Cryptocurrencies: An Asset which is No One's Liability

A reference was made to a recent speech by a Deputy Governor of RBI on central bank digital currencies[1]. The Dy Gov. had mentioned that "Private virtual currencies sit at substantial odds to

[1] Central Bank Digital Currency – Is This the Future of Money
(Keynote address delivered by Shri T Rabi Sankar, Deputy Governor, Reserve Bank of India - Thursday, July 22, 2021 - at the webinar organised by the Vidhi Centre for Legal Policy, New Delhi)

the historical concept of money. They are not commodities or claims on commodities as they have no intrinsic value; some claims that they are akin to gold clearly seem opportunistic. Usually, certainly for the most popular ones now, they do not represent any person's debt or liabilities. There is no issuer."

It was noted that not all assets need to have corresponding liabilities, for example, someone's home may be his/her asset but maybe no one's liability. Hence, in the case of considering crypto as an asset, one need not be concerned that it is no one's liability. Even when gold was used as an asset, there was no corresponding liability on anyone: indeed, governments used to keep equivalent gold in reserves to prove that their currency was credible. The moment anything which does not have an intrinsic value (or is inherently value-less) starts to appreciate, it becomes an asset in the account of the holder. It was stated that the requirement of a corresponding liability only emerges when an asset starts being used as a currency. If cryptocurrencies start acting as currencies (instead of as assets, as is the case currently), the point of no corresponding liability arises.

The conversation also drew upon Keynes' observation that the United Kingdom should not revert to the gold standard at the pre-war (World War 1) rates as it would have dramatic depressionary implications. The idea was to highlight that rigidity in maintaining the value of the currency (as a store of value) can be at odds to its use as a medium of exchange (as the economy grows and so do the underlying transactions requiring more currency).

Bitcoin touts its 21 million units limit as an important marker for maintaining its value in the long run. However, a currency constrained by a fixed supply (like Bitcoin) may have challenges in adapting to the needs of a growing economy.

Need of Governments to Support Innovations

It is important to recognize that Governments are lag technology because governments work on precedence and not the future. Governments never innovate – innovation happens from society. It is understandable because government must take care of various perspectives and innovation in one field may have consequences somewhere else. However, governments have the responsibility to promote innovation, especially since they have the power to end up inhibiting or discouraging innovation.

Indians in general have been good adapters rather than innovators. Today, the digital economy is moving fast with innovations such as fintech, e-commerce, etc. However, we may have become overcautious on the financial innovations. On the innovation space, a lot more will happen on the private side – India has some vague inhibitions on data localization, regulating data, etc. and we are very conservative. India may lose and be a latecomer in this space after China, the US, and others.

For example, today there is a major industry player who is supporting the e-commerce rules which will hurt the space – our policy makers are never alone in this sense – and usually our policies end up favouring one or more players against the rest of the industry players. There is, hence, a need to have the voice of respectable industry and thought leaders and it is important to get an independent set of people to take this up with the government.

Public Participation in Policy Formulation

In India, there are some participative mechanisms around regulations. The Government has a conservative approach, and it treats policy decisions as a secret matter – it is rare that a draft law is published – one hears of it when cabinet has approved a law, and even at that stage, the draft law will not be available in the public domain, and it will only be available when it is introduced in the Parliament. Back in 2019, the SC Garg committee had the courage to put out the draft cryptocurrency bill in the public domain – unfortunately, that consultation led to a lot of online trolling.

Overall, significant improvement is needed in the way these things are approached by the Government when it comes to public policy. There is ample opportunity for improvement, and people and industry also need to come forward along with neutral, independent, high-quality thinkers to help shape policy. It was also noted that despite the days of the License Raj being over, it was still rare to see industry leaders take public positions contrary to public policy decisions.

Approach of a Paternalistic State

Indian state was not paternalistic before the British rule. It was only at the end of 20th century that we turned into a welfare state. And today the state is everywhere. However, the state needs to roll back the paternalistic mindset and the ultra-welfare state. Within the state, there is also this misplaced notion that using harsh punishment to create fear of God in minds of people can stop crime. There is enough evidence to show that it does not work, and as a society, we should move towards arriving at more proportional punishments.

Cryptocurrencies as a force for good

In April-May 2021, there was a clarion call put out by Indians prominent in the cryptocurrency space to ask for donations to help India tide over the second wave of the COVID-19 pandemic that was hitting India hard. There seems to a shift in Indian policy to move away from being a receiver of welfare and aid, to a nation that is self-sufficient and capable in terms of taking care of itself – which has led to some restrictions have put in place on the FCRA side. It was also noted that this act of donation seemed to be driven by business objectives rather than only support – if the objective was support, it could have been sent over in fiat currencies recognized the government of India.

1.5 Crypto in India: The startup perspective

Sandeep Nailwal in conversation with Kamal Gaur
Date: October 16, 2021
YouTube link: https://youtu.be/C74qio4-ehg

The industry is very rewarding but very stressful: this combines the stresses of industries like Finance and new-age Tech. The 24x7x365 nature of the business along with the market volatility make it very stressful. The regulatory changes and uncertainty do not help. In crypto start-ups that are "token" drive, the effective business model is a Day 0 public launch, which means that you are constantly under scrutiny by the market and the analysts, who are watching your every move on development as well as tokenomics, so overall things are pretty hectic.

Polygon bootstrapped itself into existence in the deep-tech space without the help of VC money, which has now changed since there is enough funding available now. Polygon is part of the Top 20 projects globally in terms of market cap (~$15.5 bn). Polygon is currently focusing strongly on the technology around "zero knowledge proofs" as the future of scaling – and has created a $1 bn fund, and also acquired 2-3 startups in this space. Polygon is also partnering with E&Y to take Blockchain deployments back to the Enterprise space.

Overall, at both the local and global level, crypto businesses are very synergistic, unless they are competing in the same exact niche space. Overall, fintechs and crypto start-ups are bound to come together and work closely with each other, although Sandeep is not able to comment on specificities for the India context, as many things are still under wraps for now.

One way that the blockchain space will enter the public sphere is through NFTs (non-fungible tokens) that are representations of unique assets on blockchain. Historically, the Indian market has not been very big on collectibles due to us being a low-trust society, but NFTs offer on-chain credibility in terms of authenticity which can be verified by anyone. So in that sense, the popularity of NFTs can actually help them acting as trojan horses when it comes to helping mass adoption of blockchain-related content within society.

Looking at countries like Japan and South Korea which are now moving from being open & receptive to crypto to a space where a lot of KYC/AML regulations are being brought in, it is important to understand that Bitcoin has never been very anonymous. In fact, if one has to participate in money-laundering, etc, Bitcoin and other blockchains are the worst option to use, because all your transactions are forever saved publicly, and can be tracked down sooner or later – and it is nowhere as fingerprint-free as just using cash. The challenge has been that such negative use cases have captured the imagination of policy makers and since they don't have a strong in-depth understanding of how blockchain actually works, public policies around the world tend to get influenced by this limited understanding and the associated negative use cases that we see being discussed.

In terms of public policy, it is important for regulators to accept the fact that the genie is now out of the bottle. There is no way that you can actually stop the industry because it just boils down to software code. There are governments which also try to restrict on-ramp/off-ramp flow of funds, but even that doesn't work well. There are countries like China which have tried to clamp down on the crypto space, but with very limited success. When policy makers get recommendations, they get inputs from consultants who are coming from an Enterprise perspective, so their inputs are also fairly superficial. One recommendation to policy makers is that they should engage with industry experts and consultants who are crypto-native – they could be young guys who are 30-35 years old – but the upside is that they will also be the closest to the crypto ecosystem.

If we take the example of a crypto start-up, it is dealing with digital-only assets and a global audience. Entrepreneurs can literally pack their laptop and take a flight and go to a neighbouring country like Dubai or Singapore which are favourable jurisdictions and set up shop. Close to 50% of crypto entrepreneurs Sandeep knows are in the middle of moving out of India and the remaining are figuring out how to move out of India. As an entrepreneur, Sandeep wants to tell policy makers that unless they come out with really positive regulations, there is no way that they will be able to stop the brain drain that will happen in the crypto space. In a connected world such as today, out of 200-odd different jurisdictions (countries) around the world, some country or the other will always offer safe haven for the industry, and we cannot ignore that reality. It would be great if India regulators could look at creating Special Crypto Zones (SCZs) akin to Special Economic Zones (SEZs) and set them up in locations like Vishakapatnam or Goa, where favourable terms are offered to crypto-entrepreneurs to not only avoid brain drain, but also help nurture the industry.

Sandeep would also like to recommend to everyone watching this to read up more about DAOs (Decentralized Autonomous Organizations) and understand how it will be the future for how human being collaborate with each other. People should also research and understand more about the metaverse which offers sovereign ownership of assets.

In the crypto space, we are seeing developers get $100K salaries as they start out, which is higher than what you see even with the IITs and IIMs. Even skillsets like Marketing are seeing recruitment happening at salary levels of $200K. It is easy to see the wealth that has been generated in the crypto space as the overall space is now valued between $1.5 to $1.8 trillion. As a start-up owner, there is significant value to be created – and there is a high likelihood of 10+ unicorns emerging from the Indian crypto space (all in the non-exchange startup space). India can offer a captive talent pool for crypto startups from around the world which can offer global-level salaries, so the gap between what a typical Indian developer gets via the traditional ecosystem ($50K) vs what the same skillset gets sitting in California ($150K) will reduce. As a result, one could say that being receptive to the crypto space will melt away borders and lead to more wealth creation in terms of salaries on offer.

When it comes to COVID-19, it was a very trying time for Sandeep and his family as all of us contracted it sooner or later, and he also knew of many people for whom he was trying to arrange for oxygen cylinders, but who could not survive. Human beings usually have a default flight-or-fight response to most dangers, and in this situation, he realized that it was better to try and fight it best he could – which led him to take the initiative to ask for donations to help with the fight against COVID-19. He wanted to do whatever he could to help, and nobody was doing it because people didn't know how to get the donations to come to India, but everyone was playing safe, which he did not want to do. He was willing to take full responsibility and offer transparency in bringing this money to India – he was not expecting a lot of traction, maybe $1 mn or so, but within 2-3 days, they had $10 mn, and then finally they raised about $500 mn in all. In terms of bringing this money in, because of local regulations, there was no way to bring the crypto into India and convert it to India, so the way they set it up is by creating a foreign entity, which holds this crypto, which converts it into fiat currency outside India, and that is sent to India as INR through the traditional banking channels, resulting in no crypto touchpoint within India. They also found out that one cannot donate foreign funds to Indian NGOs as the NGOs need to have FCRA (Foreign Contribution Regulation Act) approval. They were lucky to have a very solid volunteer group that helped them forge relationships with a lot of FCRA-approved NGOs. They are now working closely with NGOs in India like UNICEF who have FCRA approval and their only requirement from these NGOs is to provide absolute transparency because this is an on-chain fund and everybody wants to know where every single penny is going, and the team publishes online spending reports every few weeks, and anybody can question them on any of these spends.

Sandeep also took a moment to appreciate IIM Ahmedabad as their Crypto Relief team is working with the Entrepreneurship Cell to create a small fund with CIIE to jointly invest in health-tech startups which can create larger-scale impacts on the Indian healthcare infra.

Sandeep does not think any ban is in the offing, especially since people like Elon Musk and large-scale hedge funds and global banks are opening up their crypto desks, and a ban will only adversely impact this space which is likely going to touch every individual's lives in the future in some form or another. Sandeep believes that the government should regulate the space by providing clarity on disclosures, identity, reporting, etc. From what he has seen, there has been no negative experience for crypto startups in terms of harassment by authorities or difficulty in doing business, so that's a positive situation, but he expects that the Government should now broadcast this so that the world knows that India is favourable towards the crypto space.

1.6 Cryptocurrency: Emerging Global Perspectives

Erik Feyen in conversation with Kamal Gaur

Date: October 22, 2021

Opportunity, challenges, and financial sector policy implications

Our lives are becoming digital, and financial services and money has to follow. Digital and decentralized vehicles for payment, store of value, investment and financial services can be disruptive and offer new opportunities.

But with any disruptive technology, there are risks which require careful monitoring and mitigation by both policy makers and industry – some examples include: (1) money laundering and illicit financing activity, (2) financial stability risks could emerge as the sector grows and becomes more interconnected with the traditional financial system, (3) consumer protection on frauds, Ponzi schemes, key-loss, etc. – this is compounded by financial illiteracy, (4) on the investor-side, some crypto projects have security-like features – and hence, such regulations of disclosure and transparency must be in place, (5) monetary sovereignty challenges – currency substitution for some countries (this is similar to dollarization).

For crypto to safely become mainstream, the legal, regulatory, and supervisory framework needs to be "fit for purpose" at the international and national level. The key for policymakers is to harness new opportunities while proactively mitigating the risks – in this regard some national policy makers have embraced the industry, while others have sought to limit or ban it.

Current state of market and policy

Crypto offers two innovations: decentralized networks and new synthetic digital assets. Trust does not scale with the number of participants in a network. So historically, trust has been delegated to a central authority. These authorities may give rise to challenges of single point of failure, issues with trust, inefficiencies, etc. The idea of new decentralized networks for transfer of value across space and time with cash-like finality in a low-trust environment without the need for an intermediary is revolutionary – that offers opportunities, but also risks. Second, open protocols creates new synthetic digital assets with specific programmed characteristics which are enforced by the network – e.g., scarcity, verifiable/auditable/transparent, fungibility, governance, programmability, etc. There is rapid innovation and growth like Lightning Network (easier, faster transactions at lower costs), stablecoins, decentralized finance (DeFi), DAOs, non-fungible tokens, etc.

Crypto growth shines a welcome spotlight on the weakness in the monetary and financial systems. (1) financial inclusion, cross-border payments, remittances can be slow, opaque, expensive, (2) trust in and efficiency of financial system is sometimes in question, and (3) macroeconomic issues (e.g., structurally very high inflation and/or currency depreciation).

Crypto is increasingly regarded as an emerging asset class. (1) Retail: ~200mn people own it or use it now (2) Institutional: seeing nascent adoption from corporations, pension funds, etc. (3) Financial: Players & intermediaries are bringing instruments (e.g. derivates, ETFs) for investments as well as for bridges (e.g. stablecoins) as they see staying power in the idea of crypto. However, crypto volumes are still low at ~0.2% of GDP on volume and ~0.02% of GDP on value.

The decentralized nature of crypto poses serious policy challenges – these include:

(1) Illicit activity: pseudonymous, instantaneous, borderless (can lead to serious money laundering)
(2) Consumer and investor protection
(3) Financial stability on exchanges, cyber risk, interconnectedness, exposure of financial institutions (there is no lender of last resort)
(4) Supervisory challenges: no intermediaries, data gaps (on linking wallets to beneficial owners), agency and mandates are not clear
(5) Monetary sovereignty: capital controls and currency substitution are key concerns

Various international Standard Setting Bodies provide guidance, set minimum requirements, mitigate arbitrage (e.g., since crypto transcends national borders by design), and promote collaboration:

(1) FATF: 2019 updated recommendation on virtual assets and service providers requires licence, register, reporting, authorities need to have general framework, etc.

(2) Financial Stability Board (FSB): closely monitoring the crypto asset development; cross-regulatory coordination
(3) Basel Committee on Banking Supervision (BCBS): prudential treatment by banks is being detailed via aconsultative document (risk weights, stress testing, etc.)
(4) ISOCO: security regulations coordination, investor protection, market integrity, price discovery, etc.
(5) Committee on Payments and Market Infrastructure: safety and efficiency of payment, clearing and settlement systems (also together with IOSCO).

Discussion

Some crypto enthusiasts promote crypto as a panacea for financial inclusion and banking the unbanked -- while there are interesting opportunities, that is not necessarily the case. Whether they talk of bitcoin or stablecoin, how financial inclusion comes about depends on whether the crypto-assets can be used in daily life. Take for example payments. Even for e-money, most transactions are "cash-in/cash-out" which requires an agent network, documentation for KYC, etc. and hence financial inclusion issue is back to square one. When it comes cross-border payments and remittances, there may be opportunities to reduce costs inefficiencies (but they do not yet operate scale).

Many fintechs operate on existing rails and offer very competitive services – so whether the fintech operators or the crypto-based operators win needs to be seen. The transfer via crypto (which can be faster) has a regulatory arbitrage as the crypto is not necessarily complying with all the regulatory requirements; also note that when crypto is transferred there are risks on the overall journey (counterparty risks, liquidity risks, exchange/value risks, etc.) It remains to be seen if crypto-based services can scale to the level of the fintechs that are currently servicing the traditional fiat-based global ecosystem.

Complex issue of FATF grey list and cryptos: FATF is concerned about convertible assets and their possibilities of money laundering or illicit activities. In 2018, there was a call from G20 to clarify the applicability of FATF recommendations for regulatory agencies and industry. There can be a race-to-the bottom on regulatory arbitrage: need to create a sustainable basis which is not based on regulatory arbitrage.

The definition of a virtual asset is an interesting discussion. The intermediaries include those who either facilitate virtual-for-fiat or virtual-to-virtual or offer custody services or have any form of definitive control over users' assets – current regulatory perspectives now look at bringing VASPs (Virtual Asset Service Providers) under FATF's regulatory framework. However, note that peer-to-peer transfer is not covered in the FATF rules. Now, in the case of smart contracts and decentralized applications – there have been interesting questions to solve for. Technology, software code, and software developers are explicitly excluded under the FATF rules. In practice, it is possible to identify a group of people behind some decentralized application projects who de facto conduct VASP-like activities through the app, so this group should comply with the FATF rules. However, it is important to note that the rise of truly decentralized applications and Decentralized Autonomous Organizations (DAOs) might pose a credible challenge to regulators -- time will tell how this plays out.

Similarity between crypto and cash: (1) payment is near-immediate, (2) no intermediary involved, (3) irreversible. However, an important difference to note between cash and crypto: one cannot send a container of cash across the ocean instantaneously. When you transcend borders and can transfer very large value this creates both opportunities, but also risks (e.g., money laundering). Hence, there are good grounds to treat crypto differently from cash in some respects.

How the traditional financial ecosystem and the crypto ecosystem co-exist in the future remains the million-dollar question. There was a massive activity in 2018, followed by a crash,and then there was another spurt in 2021. In the latest spurt, the movement has been to beyond crypto enthusiasts to more institutional investors that are warming up (not only from an investment/exposure pov but also around providing custodial, advisory services, banking, etc services). Banks were reluctant to engage with crypto (on balance sheet, for providing services to crypto intermediaries and stablecoin projects, etc.) – many factors including regulatory uncertainty and AML/CFT requirements played a role. With regulatory clarity increasing, banks are beginning to come in. A lot of what the future holds depends on the legal and regulatory environment and whether the current momentum within the crypto ecosystem will sustain on an ongoing basis, leading to enough change to bring both ecosystems closer together. It was also discussed how the activity in the crypto space is primarily related to the market-facing elements, primarily driven by price action and the corresponding public attention that comes with it –

however, the crypto space has been maturing in the background, as many of the relevant and successful projects currently were launched after the 2018 bull phase, but well before the 2021 bull run. Open and interoperable networks can benefit from strong global network effects and may boost innovation as anyone can directly build on top of it. History has shown this for other open-source technologies such as TCP/IP, Linux, etc. There could be value that countries find in different ways – whether in the space of payments and remittances, emerging store of value, broader innovation and competition in financial services, and as a source of revenue taxation.

At the global scale, it is important to keep in mind that there will be regulatory oversight that is needed across countries. At the domestic scale, it is important for countries to hold public consultations & discussions with civil society to arrive at what is the right balance of regulations that would work well for the domestic ecosystem – i.e., whether those regulations need to be retained at the minimum level set by global regulations, or tightened up further (including limiting certain crypto-assets activities).

All views are personal and do not represent that of the employer/World Bank.

1.7 Crypto in India: The Taxation Perspective

Meyyappan Nagappan in conversation with Kamal Gaur
Date: October 28, 2021
YouTube Link: https://youtu.be/jdGePq6D4HI

- **Opening remarks –** Before we get into taxation, one needs to look at legality first, and then look at taxation. Crypto is not illegal in any sense or banned, and people are free to participate in the crypto economy.

- **Foreign Exchange Management Act (FEMA) –** When it comes to the FEMA, the idea behind it is to control the cross-border flow of money inside and outside of India to ensure that the price of the rupee doesn't devalue significantly, although very few countries in the world have exchange control regulations. FEMA not only regulates remittances (inwards and outwards) of fiat currencies, but it also applies restrictions on imports of goods or exports of services that could have cross-border impacts. Also, since countries like El Salvador have now recognized Bitcoin as legal tender, there are also open questions on whether cryptos like Bitcoin can be automatically considered as currency. Even the Supreme Court in its landmark ruling took a close look at it but did not conclusively rule crypto as currency (or not).

- **Regulatory uncertainty –** Irrespective of whether crypto is considered as a currency or an asset, the challenge for regulators around the world is that it's now an easy way for wealth to flow in or out of the country. The hesitancy around regulating crypto is understandable because tracking crypto is challenging but there are solutions to this predicament by strengthening KYC and working closely with exchanges to request for any specific information so crypto is not an unregulatable asset in that sense, and it is something that can be figured out since other countries are also solving for the same.

- **Liberalized Remittance Scheme (LRS) –** When we look at the LRS, it is actually one of the sub-regulations under FEMA, where Indian residents can remit up to USD 250,000 in a year. If one takes the view that crypto is an asset, then it would be challenging to say that the remittance can be done within that limit. Under LRS, one can take money out of the country, but we have seen that the enforcement mechanism breaks down because once the money is in a bank account outside India, the authorized dealer (e.g., sending bank) might not be able to track the money or how it is used once the money is remitted to a foreign country.

- **Crypto locations –** When it comes to the question of whether purchasing crypto on a foreign exchange can be termed as money having left the country, another grey area is to arrive at a conclusive answer to what is the location of a crypto asset – does it reside with the exchange, on the wallet where it is owned, the server where it is hosted, or where the company that issued the token is located, or where the transaction actually happened. There is not much direct guidance around this but we believe there are learnings to be taken from the way Intellectual Property rights are managed – where the general rule of thumb is to say that the IP is located where the owner is located. So by that logic, it could be said that irrespective of which platform the crypto was purchased on, if the buyer is based out of India, then the crypto is located in India, and has not left the country at all. This also has implications on the Black Money Act and things like GST, where IGST/CGST/etc all depend on where the asset is located.

- **Foreign Contributions Regulation Act (FCRA)**
  - Talking about using crypto to raise funds through donations, the speed at which the funds were raised and pooled and remitted definitely show that there is a lot of potential when it comes to rapid deployment of capital that can be used in a transparent and reliable manner. Globally, there have been many cases of crypto being used for relief purposes towards social or charitable causes. There is great potential for the cash-strapped not-for-profit organizations to leverage technologies like blockchain and crypto to design and implement more efficient programs on the ground. The ability to accept donations through crypto will definitely help non-profits bring more transparency and efficiency to their causes. UNICEF has used crypto for quicker fund transfers, more transparent beneficiary cash transfers, or even pooling it in funds that invest in social enterprises. In India, the policy stance has been 'blockchain is good but crypto is bad'. From a non-profit perspective, there is great potential to leverage crypto as they are always cash-strapped and looking to leverage technology for having more efficient programs on the ground, so being able to accept crypto would help non-profits tremendously.

- The FCRA looks to regulate grants that come into India - so the recipient in India needs to be an FCRA-registered entity to be able to receive the funds from a cross-border donor. The issue of whether the crypto is a currency or an asset is not so much a concern because everything is treated as a donation from a foreign source, However, there are income tax requirements on non-profits are that 85% of funds received need to be spent towards charitable purposes in the same year. In the case of crypto, some of the challenges could be around the valuation of this crypto, or whether that crypto needs to be liquidated within the year, or the legal treatment afforded to crypto within that country, as some countries treat crypto as securities whereas non-profits are expected to hold their funds in low-risk investments. Non-profits are usually risk-averse on the regulatory front, and the FCRA is a bit draconian and regulators have taken tough stances in the past, so it does not seem that the environment is currently conducive enough for this to become a big use case, although globally there is enough evidence to show that crypto can and has been used as a force for good by non-profit organizations.

- **Taxation (Asset Class) –** The treatment of crypto is still evolving all over the world. We are seeing many countries around the world are categorizing it as an asset – and it seems like the best way forward. With the variety in the types of crypto assets around us with smart contracts and governance rights, it is difficult to say that crypto can be called an asset all the time. However, treating some cryptos as securities, will mean the introduction of a completely different set of regulations, like Securities Contract Regulation Act (SCRA) that come to bear when it comes to securities. So it is seen that crypto is mostly being treated as an asset, unless there is a strong reason to say otherwise. That also fits what we are seeing in the Indian market as most of the cryptos we have advised on fit in the construct of an asset.

- **Taxation (Treatment)**
  - We have seen that in the US, crypto donations to a charity are accorded tax benefits, which bring about parity with other forms of donation. On the face of it, there are no visible policy reasons to justify either a reduced taxation approach (lower on crypto vs others) or a higher taxation approach (higher on crypto vs others). Generally, governments impose a higher tax only on usage of goods or services that are harmful to society or have a direct impact on public health (e.g., sin tax for tobacco or alcohol products).

- All investors make investments to make gains, and the profits on investor gains should ideally not be significantly impacted by the tax regime. Hence, there is a strong need to provide clarity on taxation-related aspects to ensure that people are not unnecessarily exposed to taxation issues.

- **Taxation (Investor vs Trader)**
  - It is important to note that the crypto markets behave differently from traditional equity markets. Many investors look to temporarily convert their crypto into stablecoin-pegged currencies (like USD Tether) to protect their asset from being devalued due to the high volatility in the crypto markets. However, most investors do not recognize that this conversion between crypto and stablecoins also ends up effectively increasing the number of trades executed, which could lead to some regulators labelling these investors as traders. Hence it is important to try and arrive at the intent of the investor, and whether the intent behind is to actively trade as a form of profession/occupation or merely to behave as investors who are being risk-averse and financially-savvy.
  - There was also a discussion on whether other parameters can be looked at to distinguish between investors and traders – whether someone is paying full price for a crypto asset can be termed an investor vs someone purchasing it on margin is termed a trader, or whether someone who purchases/sells cryptos directly is an investor vs someone trading in instruments like futures and options is termed as a trader. It seems that the laws in their current form might not allow for these nuances to play a role – generally, we have seen that the intent of most participants is to genuinely be an investor and not a trader – just that the number of transactions make it seem that the participants are traders, not investors.
  - This underlines the need and scope for clarifications on how to differentiate traders vs investors, as well as revisit the parameters that are currently used in the equity space as they don't lend themselves equally well to the crypto space.

- **Taxation (Provisions for losses)** – When it comes to tax provisions for losses, it comes down to whether we treat crypto as capital assets or as inventory of goods. If there is a capital loss, one does get the carry-forward provision for capital losses under the catch-all provisions that cover any other type of capital asset as long as it qualifies as a capital asset (e.g., 3-year rule). If it is treated as an inventory, and if one is categorized as a trader, then you will need to do a valuation at the end of the year which will mean that any change in valuation at the end of the year will need to be treated accordingly – a devaluation in market prices of holdings will be filed as a capital loss, and an appreciation in market prices of holdings will be filed as a capital gain. However, if one is categorized as an investor, then tax liability is not linked to appreciation/devaluation of your holdings at the end of the year – an investor is only triggering tax liability at the time of liquidation, which would be taxable as profit in case of a profit, or carried forward as a loss in case of a loss.

- **Taxation (Provisions for profits)**
  - Historically, we have seen some of the provisions around reinvestment gains are akin to incentives towards encouraging investments in certain activities (e.g., property), and in that context, capital gains from any source (including crypto) should qualify. That said, there do not seem to be pressing reasons to incentivize crypto with lower taxes - the intent might not be to penalize crypto but merely to recover the full effect of the applicable taxes.
  - We have hit the stage where personal income tax collections are second only to GST collections, and higher than corporate income tax collections. It would seem that usually during a bull run, the enforcement side seeks out information from exchanges on individuals who have traded heavily so as to recover taxes. However, this approach is not sustainable in the long run, as this is a ticking bomb and there are investors who don't fully understand regulatory requirements or taxes. Also, it's become a volume game with youngsters in Tier 2/3 cities playing with small amounts (as low as INR 50-100) which essentially means you're exposing a huge part of the population to these regulatory uncertainties and risks. There is a strong need for a regulatory regime and clear policy because unclear policy doesn't help anyone in the long run – in the past, we have seen that the lack of a coherent policy means you're leaving people to the mercy of individual tax officers to take their own view, and then those issues go up through the system through the courts with conflicting rulings through multiple tribunals, and even if those are resolved much later, there is this huge invisible cost to everyone in the system that is completely avoidable with the help of clear regulations. In a complex topic like this with multiple views, it is appropriate for policy makers to step in and nip this in the bud before it becomes a problem that affects the lives of a lot of people.

- **Taxation (Taxable events) –** Taxable event is the occurrence of something that triggers a tax payment. For example, in the case of GST, the act of providing a service is the taxable event; for income tax, it is the receipt of income that is the taxable event. In the case of crypto, it will depend on the circumstances (trader/investor, business income/capital gains, etc.) When it comes to calculating the tax liability, in the case of an asset, the taxable event is on the date of sale, but in the case of trading income, it is linked to the valuation of your inventory at the end of the year. When it comes to valuation, there is no standardized value for a given crypto on a given date as the valuation can differ not only across geographies, but also across exchanges, because there is no standardized and agreed international guidance on the appropriate valuation methodology. Practical compliance problems include: (1) which exchange to refer to, (2) whether or not to take weighted average, (3) what prices to take from the selected exchange, (4) whether to use FIFO/LIFO, etc. All of these could lead to widely different profit calculations. Taxation in India is in INR – and hence all the calculations need to be based on the INR-equivalent value of the transactions. The currently prevailing idea is to provide tax submissions in "good faith". There might also be a market opportunity for crypto exchanges to step in and fill this need for clear and accurate crypto taxation calculations by providing it as an automated service to their customers.

- **Taxation (Compliance overheads)**
  - There also seems to be enough to make a case that taxation should only look at crypto-to-fiat or fiat-to-crypto transactions, whilst excluding crypto-to-crypto transactions. This will have benefits not only in terms of simplifying the tax regime but also help cast the tax net wider on a larger base population. This will also tremendously ease the compliance burden on millions of people, whom we have seen are coming from all parts and strata of society now that the crypto markets have gone wider and deeper across the country in the last few years. Without this simplification, there is otherwise this significant risk that no one is aware of, which can always be triggered by any income tax officer anytime during a 7-year window.
  - Even for people who get income tax notices and who are trying to show statement of accounts for the last 4 years, there are many different ways to calculate tax liability and show 'good faith' – and without a simplification of the tax regime, even taxpayers who genuinely want to pay taxes will struggle.

- **Taxation (Disclosures) –** When it comes to disclosures, you are expected to report any income, not so much whether you categorize crypto as an asset or an inventory. The last set of notices that went out to retail investors around disclosures happened in 2018 around the bull run, however, there doesn't seem to be any new disclosures required around crypto right now. The Companies Act now, however, requires companies to disclose crypto holdings.

- **Goods and Services Tax (GST)**
  - On the GST side, there seem to be many gaps as they are primarily designed for traditional business models, not for crypto. If crypto is money, then GST doesn't apply. However, there are still other gaps when it comes to GST and crypto. If we take the case of staking, where users stake crypto with an entity to earn crypto tokens, if the crypto is issued by a decentralized autonomous organization (DAO), can that even be considered as supply as the definition of supply under GST requires that an identifiable supplier exists (a DAO doesn't fit that requirement) – also are you getting consideration (payment) for staking the crypto or are you getting a supply of that crypto? Also, in the same example of staking, if you go through an exchange, there is a concept of a 'pure agent' who is someone who receives services on your behalf (e.g., paying a travel platform a service fee where GST is applicable only on the commission (e.g., transaction fee), and completely delinked from the size of the rest of the underlying transaction (e.g., flight cost). In all this, there is no clarity on whether the user is the one providing the service by providing the staking liquidity to the blockchain, or whether the blockchain is providing the service by providing fresh tokens to the user, or whether the intermediary exchange is an agent or not, and so on.
  - All these clarifications are important, because unlike in the case of income tax where the liability is on the net gain, in the case of GST, the implications are potentially on the value of the entire crypto. In case of the GST news on crypto exchanges, the view taken by taxation firms and crypto exchanges is that the business model is an exchange model and not an over-the-counter (OTC) model where the trade is actually between two individuals and the exchange is only charging commission. We have seen similar issues arise in the case of GST in the context of gaming or gambling platforms, but it seems that the current industry practice of treating only the commissions as applicable for GST seems to be getting accepted by the GST department without contest.

- **Taxation (Depreciation) –** It does not seem that there could be a case to be made that crypto is treated as a depreciable asset as it's not a revenue-generating asset or an asset linked to a certain limited shelf life.

- **Taxation (Input Tax Credits) –** On the topic of whether input tax credit could be claimed in 'reverse charge', it was discussed that one pays reverse charge only in a few limited circumstances – one of which is around the import of goods into India. In that case, one needs to pay GST at the point in time when customs is payable on the goods – but in the case of digital goods, there is no customs payable, so effectively there is no GST payable on the import of digital goods.

- **Regulatory clarity (PIL) –** A question was asked whether a writ petition or a public interest litigation (PIL) could force the government to expeditiously provide regulatory clarity. In terms of legality, it is the Parliament's prerogative to make laws and to go to court, one must show that a fundamental right has been infringed and all other remedies have been exhausted (e.g., government has not been responsive, or harm to society has occurred). Even in that case, the court will give time to the government to consider and respond to the issue, but not necessarily direct the Government to come out with a law. Sometimes nuances might get missed even at the highest court level – so this may be a hit or miss, and may not be the best strategy to get clarity.

IIMA Public Policy ASIG Perspectives

(1) Crypto and sovereign

Currency as the domain of the sovereign

We believe that the term 'cryptocurrency' is a misnomer. We prefer the term "crypto assets" or the more neutral, "crypto tokens".

Trusting the lack of centralization

For human beings, the default intuitive way of building trust has been centered around individuals - one first trusts an individual (based on evidence/emotion), and then assigns trustworthiness to things associated with said individual.

The spirit of blockchain is to move away from putting trust in any single third party. It does so through:

- Putting trust in the collective (thousands of nodes) instead of the individual (single third party)
- Putting trust in code (machines) instead of people (individuals)
- Putting trust in transparency (open source) instead of closed source (proprietary)

Even though the first blockchain/crypto project of Bitcoin was designed to be as decentralized as possible, we have seen crypto projects across the spectrum between centralization and decentralization. Even though centralization increases the risk of a rogue third party taking decisions, centralization of a network helps improve speed (due to fewer nodes needed to validate transactions and add blocks to the network).

Every crypto project does have a team that launches it - even in the case of Bitcoin, although the world does not know the identity of Satoshi Nakamoto, there is still a set of developers currently involved in Bitcoin development. As we explore and understand the vision and use case behind different crypto projects, and follow their journey, it requires due diligence to trust crypto projects.

The trust challenge for the investor has hence moved from trusting a centralized party (like a central bank) to knowing which team behind which crypto token is trustworthy.

(2) Technology and potential

Understanding crypto to define it

Blockchain provides a key innovation: it creates a decentralized network that can attest credibility by removing the need for a trusted third-party and leveraging cryptography to build world-class security. As a corollary, it also creates crypto tokens.

Crypto tokens are automatically generated by the network as an "in-house currency". These tokens are distributed amongst network participants as an incentive to add value to the network to solve for a particular use case and to protect and safeguard the network against malicious actors. This internal token removes dependency on external participants to provide rewards to participants. Crypto is hence used as an incentive mechanism by public blockchains to avoid meeting the fate of 'tragedy of the commons': there is now a reward for those who contribute to the robustness of the network, as opposed to only utilizing the benefits at the expense of others.

(As an aside, please note that the word "public" in the crypto ecosystem does not mean "owned or operated by the government"; it means that the item under discussion is open source and available for the common public to examine and work with.)

It is pertinent to note that the value of the crypto token is inherently linked to the blockchain on which it originates.

With this background, one can now try to answer whether crypto is an asset, commodity, security, or currency. It is clear that crypto tokens are currency only in the context of their network - they are not synonymous with 'fiat currencies' that have strong real-world usage as mediums of exchange used for goods and services. Crypto tokens themselves are not securities (however, 'smart contracts' based on some crypto technologies may be looked upon as having security-type features). Since crypto is digital, it is difficult to make a case of it being a commodity (which typically has a physical manifestation).

This leaves crypto as an asset: a store of value that might appreciate or depreciate in price based on changes in its inherent or ascribed value.

Blockchain value beyond crypto

We list down a few thoughts on six themes:

- Central Bank Digital Currencies (CBDCs)
  - Can help in nation's vision of 'banking the unbanked' by working in places where banks are unable to service, due to infra or profitability challenges
  - Can help with universal basic income (UBI) pilots ensuring benefits directly accrue to individuals using Aadhaar, minimizing risk of abuse by middlemen
  - Decentralized Finance can be leveraged for use cases like lending, e.g. small business owners, entrepreneurs
- Smart contracts
  - Tremendous scope to make data-driven processes more efficient by reducing human effort, shortening time requirements, and removing human error from the equation
  - Explore and encourage use of smart contracts to streamline processes within Government and industry (public construction bids, land registry, healthcare, insurance, transport and tax filings)
    - One way could be that funds for public construction projects (e.g., roads) are loaded in smart contracts, which then automatically trigger either based on completion of project milestones (as validated by an agreed-upon auditor) or even on the basis of feedback received by public through digital voting (say, if >80% are happy with quality)
- Non-Fungible Tokens (NFTs)
  - Ongoing Govt efforts to leverage blockchain technology for property management should take a close look at features possible with NFT technology (e.g., code that allows for future royalty payments to NFT creators at time of resale can be repurposed as replacements for property registration charges that are automatically paid to the Government at every future resale)

- Economy and job creation
  - Crypto industry thrives on cross-border collaboration – it offers great opportunity for India's young talented workforce to engage on cutting-edge work from around the world
  - Open and collaborative culture provides for global-level salaries reducing wage gaps that persist in traditional offshoring ecosystem due to foreign exchange rates and purchasing power parity

- Crypto as a force for good
  - Crypto can help not-for-profit organizations leverage technology to raise and deploy funds
  - Leveraging public blockchain solutions like crypto to raise funds globally will improve speed of fund-raising, transparency of where funds were spent, and auditability of trail of money - thereby increasing impact as well as accountability
  - FCRA regulations may need to be revisited in light of these technological advantages (including accounting for disclosures of international donors)

- Countries
  - History has shown that open and interoperable networks (e.g., TCP/IP, Linux, etc) have benefited from strong global network effects and have boosted innovation since anyone can directly build on these networks
  - Countries could find value in myriad ways – international payments and remittances, emerging stores of value, broader and deeper competition in financial services, and as a source of revenue taxation

(3) Negatives and challenges of crypto

Downsides or negatives - Blockchain

- As a technology, blockchain solves for some key shortcomings of large networks, like the need for centralization, and the dependency on a trusted third party. With blockchain, one can build a decentralized network that runs without depending on any single trusted third party.

- However, blockchain does not solve for the problems of speed or efficiency. Blockchain is not as fast (measured in transactions per second) or efficient (multiple nodes effectively doing the same work till one of them is randomly rewarded with the right to add a block, thereby earning a reward) as a traditional centralized network can be.

Downsides or negatives - Crypto

- The popularity of crypto, and the following proliferation of crypto offerings (coins/tokens/etc) on the internet, have led to a few challenges that could be termed as downsides or negatives.

    - Investor protection - since anyone with access to the internet and basic coding skills can launch a crypto offering, there is an extremely low bar (if any) when it comes to quality control. This development has the possibility (and as we have seen, the reality) of exposing the most cunning of financial criminals to the most gullible of financial victims.

    - Market volatility - Crypto markets are global and run 24x7. There is hardly, if any, price action that is localized to a country/region level. There are innumerable things that could affect crypto prices, including but not limited to, the following -
        - Commentary on crypto by politicians, governments, central banks, market players (banks, institutions)
        - Developments in the financial ecosystem (capital and other markets, interest rates, quantitative easing, etc.)
        - Geo-political developments that affect public sentiment

    - Energy efficiency - Mining of crypto and verification of transactions on the public blockchain consumes enormous amounts of energy. Some countries, like China, have banned mining and crypto partly on account of concerns on energy usage (and the consequent impact on climate given that coal is still a large part of the energy generated in China).

Role of crypto in in illicit activity

- Studies have shown that the share of crypto transactions connected to money laundering and illicit activity is estimated to be 0.34%, which compares with a 6-times higher estimate of 2% arrived at for fiat currency transactions. [1and2]

- The challenge is not so much the financing of terror or other illicit activities (which can happen in various other currencies or in gold, etc.) but the ability to trace back the money trail between the terror perpetrator, instigator, and financier. The questions from a public policy point are (a) the ability to trace the ultimate beneficial ownership (UBO) of the tokens and (b) ability to trace the money trail.

[1] - https://www.forbes.com/sites/haileylennon/2021/01/19/the-false-narrative-of-bitcoins-role-in-illicit-activity/

[2] - https://go.chainalysis.com/rs/503-FAP-074/images/Chainalysis-Crypto-Crime-2021.pdf

Crypto traceability

- It may not be easily possible to identify the individual behind a pseudonymous wallet address, nor is it possible to identify who is transacting with whom on-chain. As a direct result of said pseudonymity, we have seen hackers often demand payment in crypto due to its near-instant speed of global transfer and perceived lack of traceability.

- However, over time, law enforcement agencies as well as forensic analytics firms have become better at tracking down the flow of illicit funds (like ransomware) on the blockchain. In the recent past, some efforts by law enforcement agencies have succeeded in identifying the culprits behind crimes like money laundering and illicit activity. The way this is usually achieved is by tracking the funds from the source of the crime (e.g., a wallet where the ransom was paid) across multiple hops on the blockchain till the time it is sent to a crypto exchange to be liquidated into fiat. This usually requires the cooperation of the crypto exchanges involved to help identify individuals involved in those transfers, on the operating assumption that the crypto exchange in question is KYC/AML compliant.

- The recent ransomware attacks in the USA [Colonial Pipeline] showcases the ability of the FBI to trace the money trail and eventually also find the UBO for at least a part of the tokens. International collaboration - both on intelligence and technology - will be required in tracking terror or illicit funding.

- Contrary to popular opinion, a publicly visible ledger that allows anyone to track the flow of funds is far from an ideal solution for criminals. Cash continues to remain the most preferred form of currency used by people who are looking to cover their footprints.

Tracking crypto can be broadly described as having two elements -

A. tracking the transaction (identify units moving from wallet X to Y) and
B. identifying the participants in the transaction (name/identity of sender/receiver)

Due to the public ledger design of blockchain crypto networks, it is trivial for anyone with access to the internet to track step A.

However, due to the pseudonymous and account-based design of blockchain networks, none of the security organizations in the world (including NATGRID) can guarantee that they will be able to complete step B for every transaction.

- There are analytics firms (like Chainalysis and Coinfirm) that try to maintain information about each wallet address on the blockchain, labeling them as 'exchange' or 'high risk' or 'stolen funds' or 'suspicious source' or the like - but no individual firm has been able to completely map the blockchain thus far.
- It also seems highly unlikely because the total number of wallet addresses for only the Bitcoin blockchain can go up to a number of 2^160, which is an unimaginably large number.

How secure is crypto?

Cryptocurrencies, that are built on blockchain technology, are secure due to their distributed decentralized structure as well as their use of cryptography. The distributed, decentralized nature prevents malicious actors from tampering with the ledger (thereby avoiding the double-spend problem) whereas the cryptographical foundations prevent reverse-engineering of the private key from the wallet address (thereby preventing unlawful access to users' funds).

However, on the road to mass adoption, crypto exchanges play a key role in which they abstract away the technical foundational layer of the blockchain by providing a user experience/user interface (UX/UI) layer for users to access crypto markets. As they do this, they also take collective charge of users' crypto funds on the exchange, so as to allow for ease of deposits/withdrawals. Media reports that refer to 'Bitcoin hack' or 'Bitcoin scam' are usually referring to a compromise of private keys that safeguard funds inside Bitcoin wallets - this could happen via an exchange or directly with an end user.

Bitcoin, and the underlying blockchain technology founded on cryptography, have not been hacked. However, since the interface of the customers (traders/investors) is via the exchange, robust risk management guidelines for exchanges is critical. This needs to be around various dimensions of cyber security, credit and liquidity risk management, KYC/PMLA risks, counterparty and clearance/settlement risks, quality of tokens floated, etc. Exchanges and other intermediaries (advisors) may be the weakest link between consumers and crypto tokens.

(4) Regulation

Pros and cons of banning

Providing a time window for people to liquidate crypto holdings will not work well in the real world. For every trade to happen, one requires a buyer and a seller. If everyone in Indian crypto exchanges tries to sell, markets may crash since there may be limited buyers. Based on the severity of the ban, crypto prices in the Indian market might (or might not) approach zero.

We can take guidance from the history of what transpired when the RBI circular banning member banks from providing services to crypto exchanges was released in April 2018. Anecdotal evidence suggests that on the day of the announcement, crypto in the Indian markets were trading at price points 35% lower than global prices prevailing at the time. It remains to be seen how much the Indian crypto markets would crash if a ban on investor participation is brought about, instead of the 2018 circular that had only asked regulated banks to stop servicing crypto exchanges.

Having said so, we note that the number of investors and the quantum of wealth associated with crypto in India is likely not as large as made out in recent media articles and advertisements.

The importance of regulation

Regulation is a win-win-win outcome for all law-abiding participants involved. Regulation allows for the following -

- Structure, guardrails, and redressal mechanisms for industry players
- Awareness, guidance and education for investors
- Oversight, control, and revenue taxation for governments

If the government were to not regulate crypto, then the usage of crypto would move underground, with no standardized set of rules, and zero recourse to law in cases of investor protection, etc. Without regulation, industry players, investors and government would all be poorer for the same.

- Regulation of industry
    - All industry exchanges to be required to register themselves with a regulator
        - SEBI could be a natural regulator if crypto is treated as an asset, not currency
    - Crypto offerings to adhere to strict disclosure and risk guidelines if raising public funds from Indian investors through Initial Coin Offerings (ICOs)
        - Prospectus, like in the case of IPO, needs to be released with clear identification of corporate/individuals who are offering the coins
    - Intermediaries involved in enabling financial investments in crypto should clearly communicate to investors that -
        - cryptocurrencies are highly volatile
        - all investments are subject to market risks (price, liquidity, exchange, cyber, etc.)
        - adequate due diligence should be performed before investing - there may

be a complete loss of capital

- Regulation of investments
  - Know your customer (KYC)/Anti-money laundering (AML) policies for all clients to be followed by crypto exchanges
  - All fiat inflow/outflow to happen via formal banking channels (bank accounts, not cash)
- Investor protection
  - Create a market with disclosure and risk-mitigation techniques
  - Caveat emptor for investors: any gains or losses will be their own

(5) Bull run and investor protection

The current bull run is likely due to multiple factors like -

- Heightened awareness about crypto
  - In all human-driven markets (including crypto), upward price action creates higher awareness that creates greed that leads to an increase in upward price action - it's a virtuous cycle that ends up snowballing into a bull run. Sooner or later, the sentiment does turn negative, and the same virtuous cycle becomes a vicious cycle as downward price action creates higher awareness that creates fear that leads to an increase in downward price action, leading to a bear market run.

- Increase in circulating capital within the world
  - Global quantitative easing (which has been ongoing since the Global Financial Crisis of 2008 and has been heightened recently to arrest slowdown from COVID-19) has led to a glut of money supply which has led to concerns around inflation. This smart money is likely moving to assets traditionally considered as hedges against inflation, like gold and now, bitcoin.

- Maturing of the crypto ecosystem since the 2017 bull run
  - The previous bull run was more centered around Bitcoin and other Layer 1 blockchains that are primarily focused on on-chain transactions on a public ledger.

Since then, a lot of progress has happened on Layer 2 solutions for off-chain transactions (like Lightning Network) that solve for the slow speed and high transaction costs that are prevalent in Layer 1 solutions.

- Apart from Layer 2 solutions, a lot of progress is also being made around smart contracts, which are pieces of code that do not require human intervention for execution. As smart contracts have become more prevalent, different use cases require third-party info to be brought into the blockchain network (via oracles) for decision-making of the smart contracts.
- There have also been other solutions that are looking to solve for interoperability between chains, which would mean the ability to swap one crypto for another (e.g. BTC for ETH) without having to go through a centralized platform like an exchange.
- Based on this, we believe that the crypto ecosystem has matured since 2017 and currently contains many projects looking to build elegant solutions for complex problems.

Protecting interests of small investors

Blockchain and crypto has democratized access to global projects for retail investors, and access to retail investors for global projects. As is the nature of this arrangement, this can expose the most vulnerable of investors anywhere to the savviest of financial criminals everywhere.

Protecting the interests of small investors needs to be taken up as a joint responsibility by the industry and the State. A five-pronged strategy can be considered -

1. <u>Inform</u> - Help people understand that crypto offerings are not regulated by governments around the world, and are fraught with market risks (including fraud and outright loss of capital)
2. <u>Forewarn</u> - Advise people that crypto markets are extremely volatile and require an extremely high-risk appetite (one which can cause some investments to lose up to 100% value)

3. Educate - This is a must for every participant in the crypto markets. Help people understand how the crypto markets work (bull and bear cycles), and what are the best practices as investors and traders.
4. Protect from self-harm**:** Have a definition of an "accredited investor" which can mean some combination of (1) minimum investment corpus, (2) net worth, (3) income criteria, etc.
5. Positive regulations**:** Provide guidance and clarity on tax liability calculation, regularization of income, etc to encourage people to bring their profits back the traditional financial ecosystem

Unfortunately, there is no easy way around this problem - the most effective reliable long-term way to protect small investors in today's age where they can invest money in global offerings at the click of a button is to raise the overall financial-savviness of investors.

There is no way to ensure Ponzi schemes do not take place in crypto - the best we can do is focus on investor education and train them to conduct due diligence before making investment decisions, with the disclaimer of 'caveat emptor'.

(6) Taxation

Assessing crypto adoption

Unlike equity broking platforms, which have to register their clients with a CDSL or NSDL, crypto exchanges are currently not required to register their customers with a centralized depository. As a result, there is no easy way to know how many unique investors have registered with crypto exchanges. The numbers being mentioned in the media likely range from simple summation of all investors across exchanges (without accounting for duplication) to extrapolated and unverified figures (based on growth rates in investor base).

The industry has mentioned that it has a self-regulating organization (SRO) in place. The industry should be encouraged to follow the disclosure guidelines of well-established SROs like Association of Mutual Funds of India (AMFI) when it comes to disclosures: number of folios, gross and net inflows and outflows, aging of accounts, balances in accounts, frequency of trading, etc. Many countries, especially South Korea, seem to have better disclosure standards - the industry should come together to voluntarily adopt these. If the industry is unable or unwilling to do this in say the next six months, it may be required to bring in regulatory directions on these aspects.

Tax on mined cryptos

There are multiple ways to account for mined crypto from a taxation point of view -

- For those who are doing mining as a key business activity, it can be treated as such. Net-off from revenue the cost of goods manufactured. In this case, the miner would declare the running costs of mining equipment as the Cost, and the value of the crypto being mined as Revenue, and then account for the difference in both as the profit/loss, and accordingly file taxes.
- Others who are engaging in mining but not as a key business activity, may be allowed to show it as Revenue/Income, and declare it as Income from Other Sources as part of their tax filings.

It is also possible that miners are not declaring mined crypto as part of their Earnings/Income, and not paying any taxes on the same. Tax compliance needs to start with disclosure of crypto interests.

Identifying Indian taxpayers

Participants on crypto blockchain networks are identified only with the help of wallet addresses, which are alpha-numeric strings of text, like “1BvBMSEYstWetqTFn5Au4m4GFg7xJaNVN2”. Every wallet address is unique, and can be generated trivially by any user at any time, without the need for KYC. Hence, wallet addresses act as pseudonyms, and there is no way to identify the actual user behind the wallet. The blockchain also does not capture IP addresses of the participants who transact on the network, and hence, there is no way to cluster certain wallets as having been accessed from certain geographical parts of the world. In summary, there is no straightforward way to identify an Indian citizen or taxpayer in the crypto ecosystem, unless the individual is required to voluntarily to reveal himself/herself.

Approach towards taxation

Our recommendations on taxation are as follows:

- Treat crypto as a capital asset with tax slabs at par compared to other asset classes
- Treat longer holding periods (say 3-year holdings) more favorably from a tax-rate perspective than shorter ones (helps inculcate responsible investor behavior since crypto markets are volatile)
- Account for differences in behavior that are unique to crypto markets
    - parameters that distinguish investor versus trader in equity markets need to be modified for crypto - e.g. replace 'number of trades' as qualifying criteria for trader with 'usage of margin' and/or 'buying of crypto futures and options'
- Increase voluntary tax compliance by reducing compliance overheads on citizens
    - to start with, tax liabilities to be calculated only on 'fiat-to-crypto' and 'crypto-to-fiat' transactions, not on 'crypto-to-crypto'
- Tax assessees in India (above a certain threshold) may be required to disclose all their crypto holdings (balances) as part of annual tax filings
- Tax liability will be incurred by a resident assessee irrespective of the jurisdiction in which crypto trades are made
- Existing rules should be clarified that GST is applicable only on the 'brokerage + transaction fees' charged by exchanges (similar to equity broking platforms)

(7) The India perspective

Assessment of crypto holdings

At the outset, it is important to note that there is no known and accurate way to identify crypto holdings within the borders of nation states.

However, we are sharing some statistics as published by Chainalysis, a blockchain analytics firm, along with their disclaimer about country-level estimations -

> "Please note that due to the decentralized nature of cryptocurrency, it is difficult, if not impossible to know the true amount of cryptocurrency usage in a country. We estimate country-level on chain activity based on the distribution of cryptocurrency services' web traffic among visitors to a service's website. Our methodology allows us to produce estimates that have never been approached before."

<u>Cryptocurrency use in India (11 Sep 2020)</u>

In terms of **crypto adoption index**, which looks at parameters like on-chain value received, on-chain number of deposits, on-chain retail value and P2P trade volume, India ranks **11th out of 154** countries globally (exhibit A) and **2nd out of 28** countries in Central and Southern Asia and Oceania (exhibit B)

In terms of **on-chain volume received**, India ranks **13th out of 154** countries globally (exhibit C) and **2nd out of 28** countries in Central and Southern Asia and Oceania (exhibit D), with **$6.6 bn** worth of value received

In terms of **P2P trading volume**, India ranks **8th out of 154** countries globally (exhibit E) and **1st out of 28** countries in Central and Southern Asia and Oceania (exhibit F), with **$104 mn** of P2P volume

In terms of illicit value sent and received on-chain (exhibit G), stats derive $112 mn illicit value received by India and $53 mn illicit value sent by India

<u>The 2021 Geography of Cryptocurrency Report (October 2021)</u>

In terms of global **Crypto Adoption Index**, Chainalysis shows India at rank **#2** (exhibit H), and is derived from -

- rank **#2** - On-chain value received
- rank **#3** - On-chain retail value received
- rank **#72** - P2P exchange trade volume

In terms of **Decentralized Finance**, Chainalysis shows India at rank **#6** (exhibit I), and is derived from -

- rank **#1** - On-chain DeFi value received
- rank **#120** - On-chain number of DeFi deposits
- rank **#1** - On-chain retail DeFi value received

In terms of **cryptocurrency value received** (Jul 2020 to Jun 2021) (exhibit J), Chainalysis shows India around the **$90 bn** mark with

- **$50 bn** coming from DeFi, and
- **$40 bn** coming from centralized services

In terms of **share of cryptocurrency activity by currency type** for India (exhibit K),

- ETH/wETH seems to be **~50%**
- BTC seems to be **~20%**
- stablecoins at **~10%** and
- altcoins around **~5%**

In terms of **share of cryptocurrency value sent by transaction size** for India (Jul 2020 to Jun 2021) (exhibit L), Chainalysis shows -

- Small retail (<$1K) at **~1%**
- Large retail ($1K-$10K) at **~4%**
- Professional ($10K-$1M) at **~32%**
- Institutional ($1M-$10M) at **~20%** and
- Large institutional (>$10M) at **~43%**

Bitcoin mining

The website **https://bitnodes.io/** publishes a daily distribution of Bitcoin nodes by Country (exhibit M).

As of 19 Nov 2021, out of **12702** nodes around the world, India appears at **rank #46** with **10 nodes**, although it is important to note that the largest set of nodes actually falls under the unidentified cluster of **'n/a'** with **5319** nodes (~42% of network size).

Also, the share of nodes is not necessarily equal to the share of bitcoin mined by those nodes, as the latter depends on the competitiveness of said nodes (in terms of computing power) and collaboration with other nodes (participation as part of a mining pool).

However, if we were to presume that only 10 nodes are based out of India, and they earn a share of mined bitcoins commensurate with their share of nodes on the network, then simple math would say that these **10** Indian nodes are collectively mining **~0.70 BTC** per day (as of 2021) (= 10 nodes / 12702 nodes * 6.25 BTC per block * 6 blocks per hour * 24 hours per day).

Outward remittances

Within the world of crypto, there is no concept of geography, and there are no wallets that are designated as domestic or foreign wallets.

As we look to estimate size of money remitted outside India, there are three important points to be noted:

1. It is likely that a majority of the initial seed crypto units (primary sale, so to speak) in possession of Indians might have come through one of three sources -
    a. Supplied by Indian miners
    b. Bought off international exchanges
    c. Received through airdrops (free crypto provided at launch by some projects to trigger usage)
2. However, since Indian exchanges only allow Indian participants on their platforms, all secondary / tertiary / later sales that have happened in India, which has also led to a significant rise in the value of crypto, have been amongst Indian participants who are exchanging INR fiat with each other for crypto
3. Markets are priced at the margin, which means that the increase in value of dormant holdings because of upward price action, does not automatically imply that said collective increase in value of holdings has now 'left the country'.

Keeping these aspects in mind, it would seem that arriving at any reasonable estimate of money being remitted out of India would be extremely difficult, if not impossible.

If an Indian user creates a fresh wallet address off an internet website and sends his crypto there, it cannot be said that the crypto has left the country, as the Indian user is still in full control of the crypto. An analogy that might help is that of email - if an Indian user logs on to Gmail.com and sends an email, could it be said that the user has sent his message outside India (just because he/she logged on to an international email service provider)?

The only association that one can make is to state that the label of 'domestic' vs 'foreign' depends on the geographical origin of the wallet owner. This is in line with our perspective that we should be guided by laws around Intellectual Property - where the rule is that IP resides with the owner, and hence, by association, in the location where the owner resides.

(8) The global perspective

Regulating the unregulated

It is true that there are multiple corners of the internet that are unregulated and outside of the reach of governments. However, we believe that the internet does not, cannot and should not operate in a vacuum away from real human society. There is a case to be made regulations are needed wherever the virtual world interfaces with the real world, and there is the possibility of things going awry and impacting real-world people in adverse ways. Case in point - actions that are crimes in the real world also remain crimes if committed in the virtual world.

Crypto has an investor protection angle that requires governments to be conscious. Given the ease of investing in cryptos, this has become very popular very quickly. We have highlighted above that the current bull run is operating in a virtuous cycle which could also end up in a vicious cycle. This requires the government to be aware of the social and economic consequences. It is for governments to ensure that the channelization of money in crypto happens to regulated players (exchanges, etc.) and the investors who are participating in these markets are informed, educated and aware of the risks of the market they are investing in.

Challenge to established order

Countries that take a narrow and shorter-term view of crypto might perceive it as a threat to their sovereignty over fiat currency and a challenge to the established order of the nation state. However, history has shown that open and interoperable networks (e.g., TCP/IP, Linux, etc) have benefited from strong global network effects and have boosted innovation since anyone can directly build on these networks. Countries could find value in myriad ways – international payments and remittances, emerging stores of value, broader and deeper competition in financial services, and as a source of revenue taxation.

Note that the fact that the crypto is being measured in terms of market-cap suggests that this is more an asset than a currency. When a stock of currency is measured, it is with reference to the underlying economy (GDP, etc.) Market-cap suggests that participants also look at crypto as an asset (like gold, equity, etc.) To the extent, crypto remains as an asset/token, it does not threaten the established order of monetary seigniorage of the sovereign.

Having said so, the role of public policy may not necessarily be to promote stability of the established order - reevaluation of the established order is an important part of social and political evolution of civilizations.

Appendix

Exhibit A -

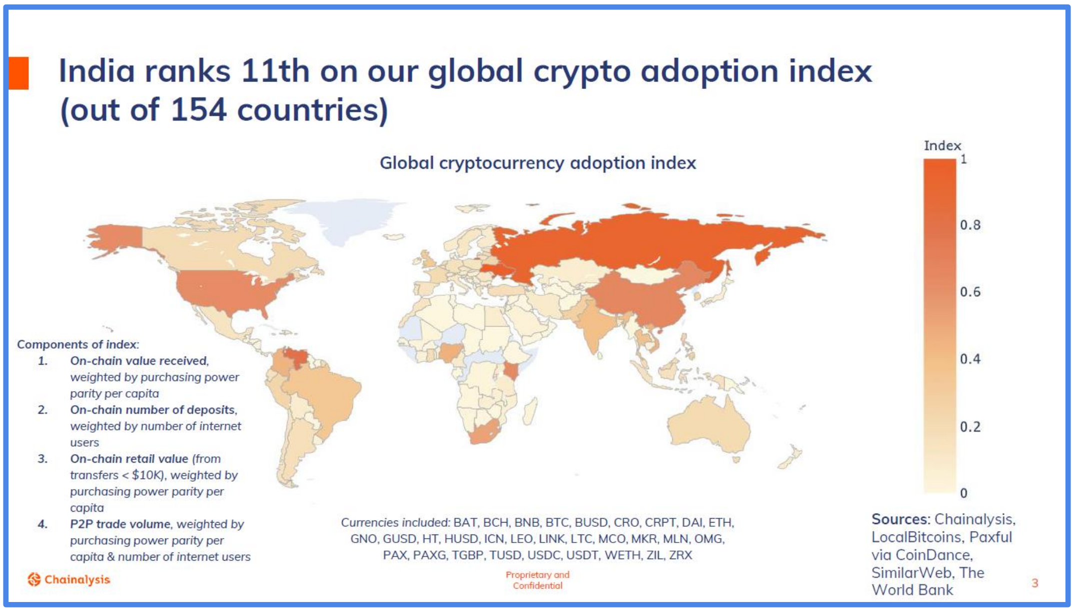
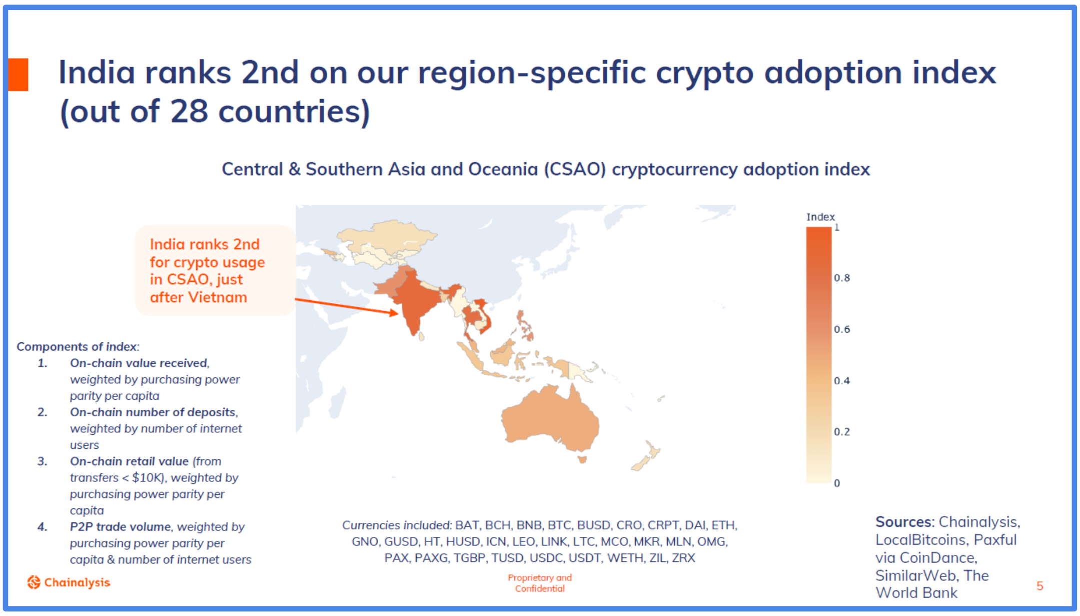


Exhibit B -



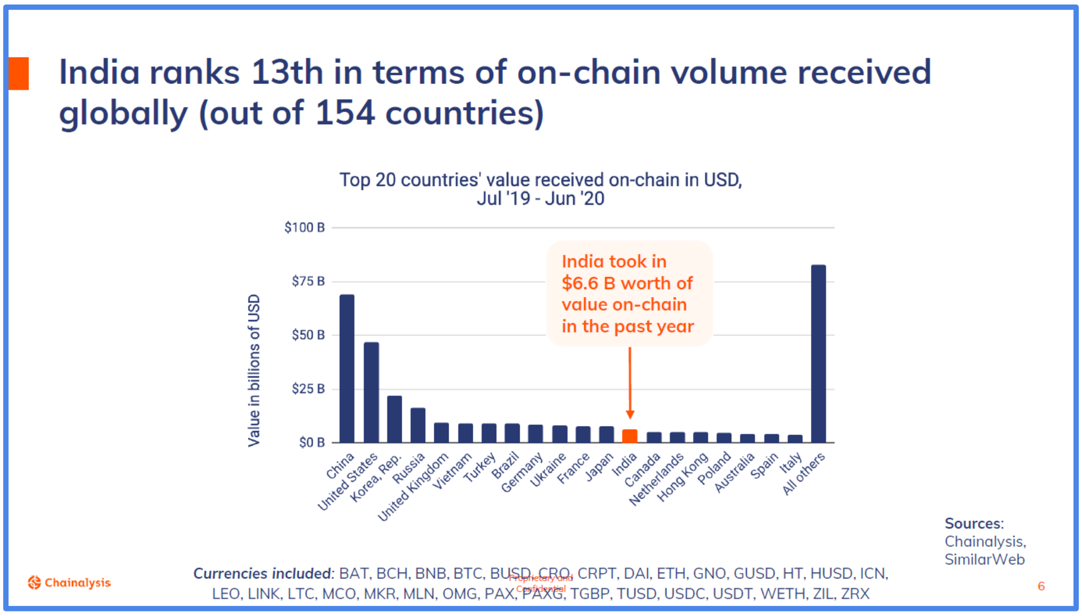


Exhibit C -

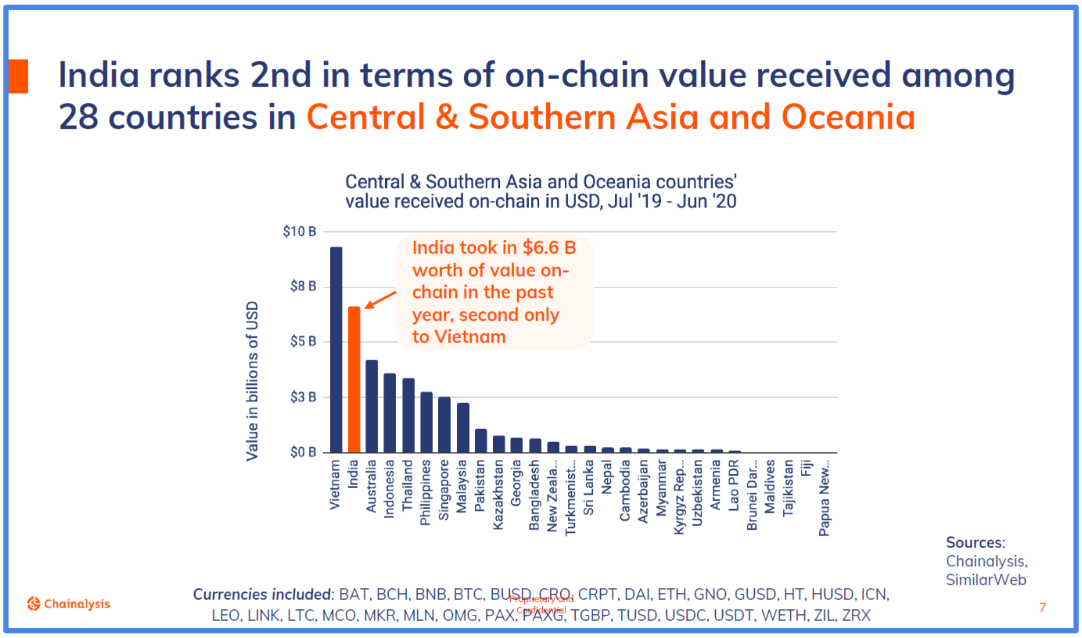


Exhibit D -

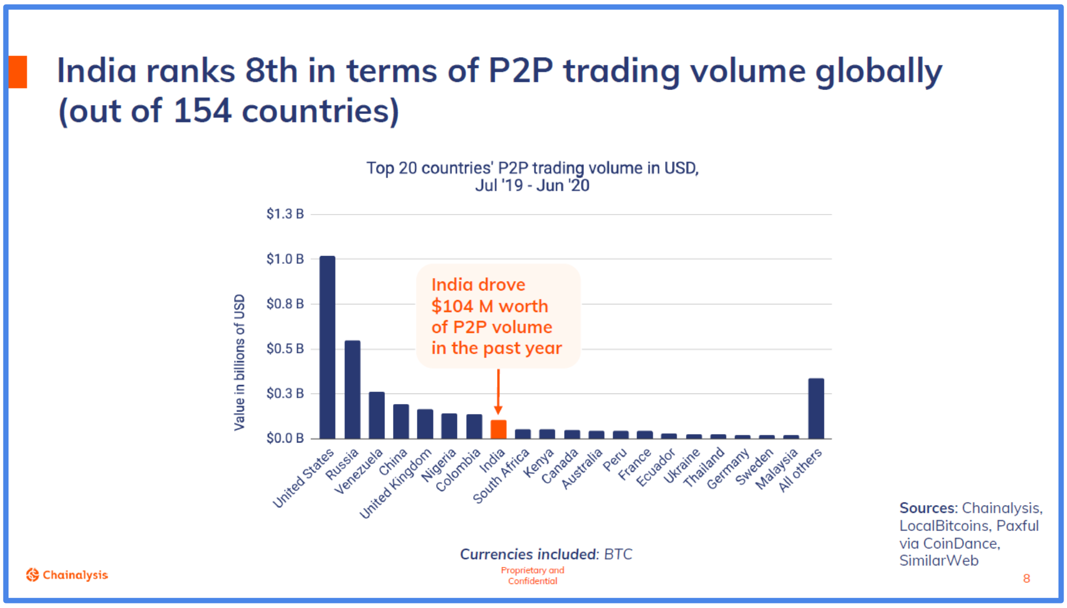


Exhibit E -

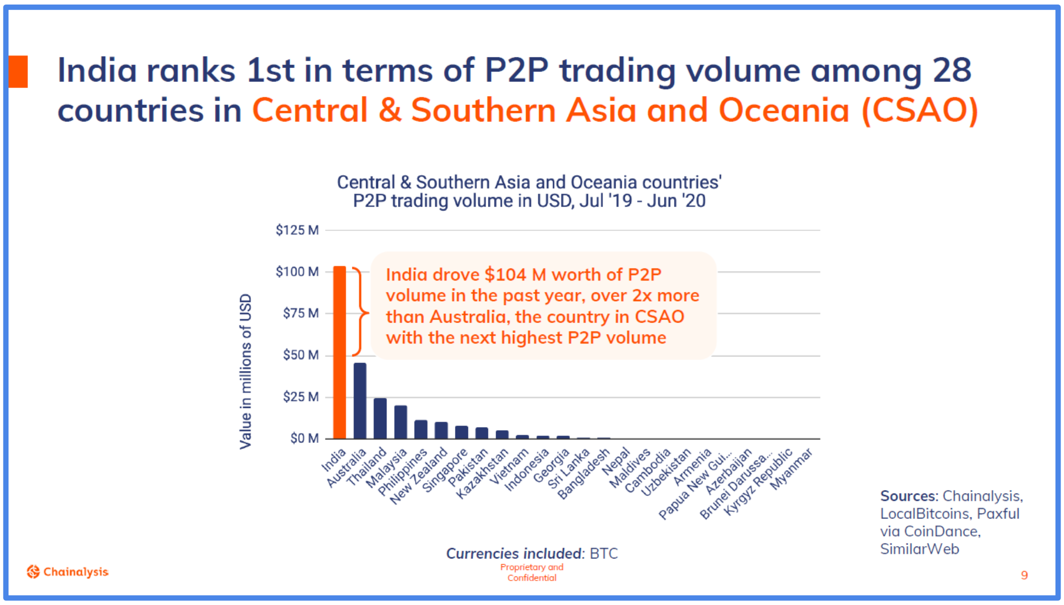


Exhibit F -

India's total and illicit value sent and received on-chain, Jul '19 - Jun '20

India ranks 13th for value received out of out of all 154 countries globally

$6.6 B	x	1.7%	=	$112 M
On-chain value received by India		Illicit share of value received (Central & Southern Asia and Oceania average)		Illicit value received by India
$6.7 B	x	0.8%	=	$53 M
On-chain value sent by India		Illicit share of value sent (Central & Southern Asia and Oceania average)		Illicit value sent by India

Please note: illicit values are estimated based the region's share of illicit activity on average and could therefore be higher or lower.

Illicit categories: *child abuse material, darknet markets, ransomware, sanctions, scams, stolen funds, terrorism financing*

Currencies included: BAT, BCH, BNB, BTC, BUSD, CRO, CRPT, DAI, ETH, GNO, GUSD, HT, HUSD, ICN, LEO, LINK, LTC, MCO, MKR, MLN, OMG, PAX, PAXG, TGBP, TUSD, USDC, USDT, WETH, ZIL, ZRX

Sources: Chainalysis, SimilarWeb

Exhibit G -

The 2021 Global Crypto Adoption Index Top 20

The table below shows the top 20 countries in our 2021 Global Crypto Adoption Index, as well as their rankings in the three component metrics that make up the overall rankings.

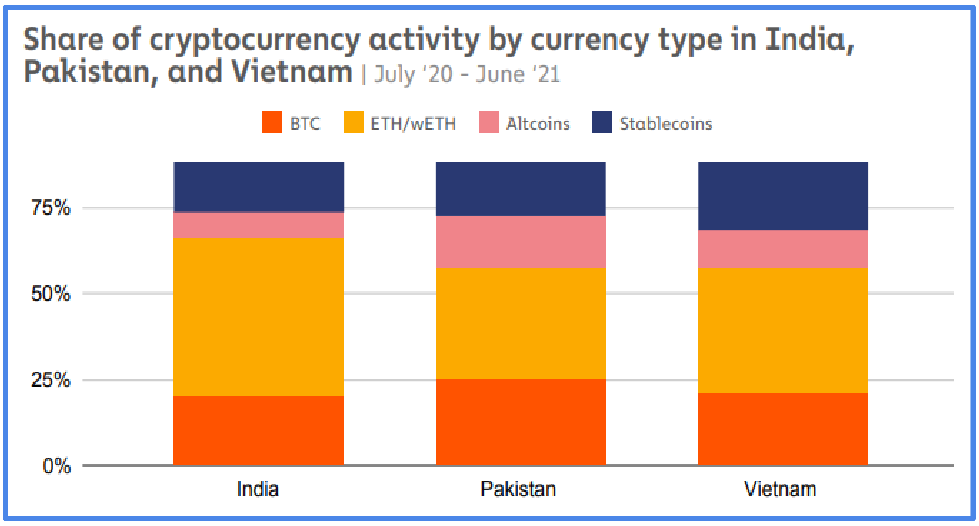
Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Vietnam	1.00	1	4	2	3
India	0.37	2	2	3	72
Pakistan	0.36	3	11	12	8
Ukraine	0.29	4	6	5	40
Kenya	0.28	5	41	28	1
Nigeria	0.26	6	15	10	18
Venezuela	0.25	7	29	22	6
United States	0.22	8	3	4	109
Togo	0.19	9	47	42	2
Argentina	0.19	10	14	17	33

Exhibit H -

Exhibit I -

Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
United States	1.00	1	3	47	4
Vietnam	0.82	2	4	64	3
Thailand	0.68	3	5	46	5
China	0.62	4	2	113	2
United Kingdom	0.60	5	9	40	6
India	0.59	6	1	120	1
Netherlands	0.55	7	24	11	18
Canada	0.52	8	17	30	15
Ukraine	0.49	9	11	50	7
Poland	0.46	10	18	36	17

Exhibit J -



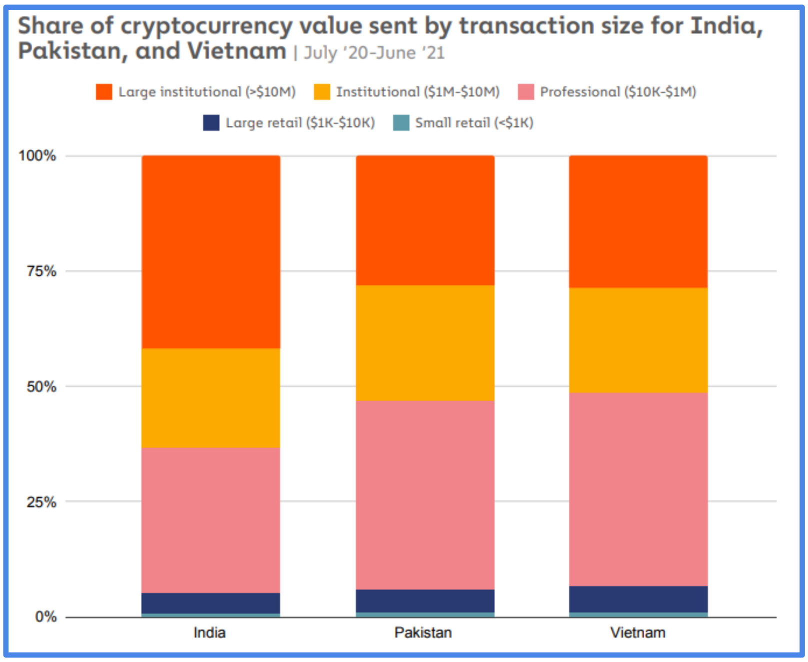


Exhibit K -

GLOBAL BITCOIN NODES DISTRIBUTION

Reachable nodes as of Fri Nov 19 01:36:45 2021 IST.

12702 NODES | 24h | 90d | 1y

Top 10 countries with their respective number of reachable nodes are as follow.

RANK	COUNTRY	NODES
1	n/a	5319 (41.88%)
2	United States	1834 (14.44%)
3	Germany	1813 (14.27%)
4	France	551 (4.34%)
5	Netherlands	383 (3.02%)
6	Canada	304 (2.39%)
7	United Kingdom	245 (1.93%)
8	Finland	187 (1.47%)
9	Russian Federation	186 (1.46%)
10	China	134 (1.05%)

More (88) »

Exhibit L -

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2. A session on "India Budget 2021-22"

Shri Tarun Bajaj, IAS in conversation with Prof. Abhiman Das and Akhilesh Tilotia
Date: February 20, 2021
YouTube Link: https://youtu.be/qvNsAgTwxPo

The webinar was opened by Prof. Abhiman Das who introduced Shri Tarun Bajaj, Secretary DEA, describing him as a key member of the "dream team" of Ministry of Finance who brought an IIMA alumnus imprint to the Budget. India's first Budget after a pandemic year, broke various paradigm and constraints. Highlights included: (a) fiscal space was dramatically opened up, (b) privatization was loudly proclaimed as priority policy, (c) monetization of assets to recycle capital back for investments was formalized in the National Monetization Programme, and (d) the creation of a bad bank is a big policy leap.

Secretary DEA highlighted that even though he assumed office in the Ministry of Finance in May 2020, he was no stranger to the Ministry, having worked two roles here before his stint at the Prime Minister's Office. This time was different: revenues had almost completely dried up even as the need to support the vulnerable sections of the society were at a peak. The Government of the day ushered in a slew of reforms to wisely turn the crisis into an opportunity. The Budget was emblematic of this Government's approach: while it is a Budget for one year, it lays out the strategic roadmap for the next several years.

<u>Fiscal deficits and growth</u>

By the end of CY2020, revenues were beginning to stabilize, expenditures were higher but in control, but the GDP had contracted. This meant that for the fiscal deficit to GDP ratio, the numerator had increased while the denominator shrank, leading to a high ratio. It is important to note that this was happening on the wave of policy incentives which had been provided earlier (e.g., production linked incentive (PLI) schemes, reduction in corporate tax rates). One option for the Budget was to focus on reducing the fiscal deficit. However, as noted in the Economic Survey, India's fiscal policy tends to be pro-cyclical: adhering to the fiscal deficit constraints would have added to the pro-cyclical bias.

The Government instead decided to open fiscal space for itself even as it recognized the need to offer a medium-term path of consolidation which was highlighted as the 4.5% fiscal deficit to GDP ratio target for 2025-26. Preliminary calculations suggest that opening up the fiscal deficit constraint has led to a fiscal space of around Rs 40 lakh crore over next five years (see table on next page).

Secretary DEA highlighted two points: (a) the fiscal deficit numbers reflect a clean-up of accounting. This means that the budget numbers now take into account many items that were earlier not formally reflected as part of Government accounts – for example, the reconciliation of accounts between FCI and National Small Savings Scheme; and (b) the expansionary fiscal policy is going to be leveraged for public investment into productive sectors – in other words, the extra fiscal space is expected to be largely directed towards a notable increase in capital expenditure. **The multiplier effect of capital expenditure is around 2.5X** – this investment will hence provide a massive boost to the economy. In many ways, this sets the agenda for the Government for the next decade.

India opened up ~Rs 40 trillion of extra spend by Centre+State by relaxing FRBM targets

Calculations showing estimate of increase fiscal space over FY2022-26 (Rs tn, March fiscal year ends)

	GDP		Fiscal deficit/GDP (%) Post Budget '21			Fiscal deficit/GDP (%) FRBM from FY22			Increased fiscal space	
	Rs tn	Growth (%)	Centre	States	Total	Centre	States	Total	(%)	Rs tn
2021	196.2	-4.0	9.5	4.5	14.0					
2022	226.5	15.4	6.8	4.0	10.8	3.0	3.0	6.0	4.8	10.9
2023	253.6	*12.0*	6.2	3.5	9.7	3.0	3.0	6.0	3.7	9.4
2024	284.1	*12.0*	5.7	3.0	8.7	3.0	3.0	6.0	2.7	7.5
2025	318.2	*12.0*	5.1	3.0	8.1	3.0	3.0	6.0	2.1	6.6
2026	356.3	*12.0*	4.5	3.0	7.5	3.0	3.0	6.0	1.5	5.3
Total										**39.8**

Notes:
(1) Assumes a linear fall in fiscal deficit/GDP ratio between FY2022-26
(2) Nominal growth assumed at 12% annually

It was noted that many fiscal transfers to States (for example, through schemes like the Pradhan Mantri Gram Sadak Yojana) are not treated as capital expenditure on the books of the Government; the PSUs will continue on their capital investment path; the National Infrastructure Pipeline sets out a broad and ambitious framework for attracting private investment into India; and the public private partnerships (PPP) paradigms are being introduced as a viable approach in many sectors, including in Railways. **A plan to nudge States towards enhancing capital expenditures is in the works and will be unveiled during the year.** This large public investment program, coupled with aggressive efforts to crowd-in private sector investment, is expected to kick-start growth and **keep the growth rates high (7-8%) in the medium to long-term**. Financing will be supported by, inter alia, the development financial institution (DFI), encouraging novel instruments by streamlining rules for real estate investment trusts (REITs) and investment trusts (InvITs), and inviting private capital into various sectors.

The overt emphasis on capital expenditure is crucial because the Government recognizes that only productive investments will take India into a higher and sustainable growth trajectory – **the Government will take all steps to ensure that the fiscal expansion is directed towards capital expenditure**. If the extra fiscal space is consumed, it is likely to lead to an untenable scenario of higher fiscal deficit without commensurate growth, an outcome which the Government intends to safeguard against.

Inflation and bond yields

A concern was raised that the fiscal deficit targets would translate into additional borrowing of Rs 80,000 crore by March 2021 and another Rs 12 lakh crore over the following year. Such a large borrowing programme could put pressure on Government bond yields (that is already being seen in the market). Secretary DEA highlighted that **the Government and the RBI work in close coordination – both parties cannot and do not give surprises to each other**.

The Government is conscious about inflation and, together with the RBI, keeps a close watch on it. The Government is also working towards the declaration of the statement of intent of the inflation band for the next five years in March 2021. **The Government expects to keep inflation in control** which will also support Monetary Policy Committee's (MPC) accommodative policy stance. This stance should, in turn, **keep interest rates low**, which is critical in a scenario where the debt-to-GDP ratio is expected to rise on account of high fiscal deficits. Secretary DEA highlighted that the Government also has many other levers that it could deploy, for example: (a) revenues may surprise on the upside, (b) the borrowing calendar announcement could give confidence to the markets, (c) other sources of borrowing, including passive inflows from global bond indices, could be accessed. **The benign interest rate situation in the country is expected to continue**.

Oil is a key component of revenue for the central Government (where oil related revenues constitute ~1.5% of GDP) and state governments. Moving beyond the current issue of taxation on oil, the fiscal composition of India's budget over the coming years and decades will need to evolve as the country gradually transitions to renewables (on the supply side) and electric vehicles (on the demand side). Secretary DEA highlighted that rising oil prices benefit States (that have ad-valorem) more than the Centre (which has fixed rate taxes on oil). In the longer run, the economy is expected to expand with lower cost energy and higher manufacturing due to PLIs. This could materially expand the tax-to-GDP ratio for the Government and create new sectors whose taxation could compensate for lost oil tax revenues.

Banking sector

The creation of a bad bank can help facilitate an easier resolution mechanism for loans that have turned bad (and have already been provisioned for substantially) but suffer from lack of coordination mechanisms between the various members of the consortium. Since the bad bank (in the format of the asset reconstruction company (ARC) and the asset management company (AMC)) will be incorporated in the private sector, it allows from a greater independence in operation compared to a public entity that may face institutional and bureaucratic constraints. **If the public sector bank balance sheets can be cleaned up before their privatization, it could improve their price-to-book ratio and allow the Government to realize better valuations from the banks when they are privatized.**

Secretary DEA highlighted that the privatization of public sector banks would mean turning them into private entities that could allow them to take commercial decisions more easily. This does not mean that the Government will entirely exit the banking sector – it expects to retain a few strong and large public sector banks.

Foreign exchange reserves

India now has ~USD 600 billion of foreign exchange reserves, making it a net creditor nation at the sovereign level. The import cover is now more than 18 months, over 3x the standard of 6 months. This reconfirms that India has come a long way from 1991 where the import cover was only for a fortnight. Secretary DEA mentioned that **India's reserves are built on capital flows and not on current account surpluses** – hence, India should remain vigilant about the possibility of such flows reversing due to exogenous factors not in India's control. Any policy on deploying foreign exchange reserves for domestic investment should take this into account. The historical example of **RBI investing USD 5 billion in IIFCL UK** was highlighted – while currently not on the discussion table, such an intervention may be considered at an appropriate time in consultation with RBI.

Jobs and GIFT City

On the issue of current account dynamics, Secretary DEA reposed confidence in the PLI scheme to make India an important player in exports. **The outcome-oriented PLI scheme will incentivise production which is very different from earlier input-oriented (capital investment) schemes**. This observation naturally led the discussion to jobs and employment. India has two clearly articulated economic goals: (1) USD 5 trillion economy and (2) AtmaNirbhar Bharat. With the emphasis on capital investment, clearing up the decks for private sector to invest, and foreign participants (especially sovereign wealth funds and pension funds) encouraged in infrastructure, more and better jobs should follow. GIFT City was highlighted as an illustrative key policy initiative that could onshore financial transactions and create jobs through activities such as aircraft leasing and SEBI's bullion exchange.

IIMA Public Policy ASIG perspectives

The Budget sets the tone for the next decade as India steps up its strategy of capital investment driven growth. The enhanced fiscal space created by the Budget (~Rs 40 lakh crore), which could be as high as 20% of India's current GDP (~Rs 200 lakh crore), with a multiplier of 2.5X, could create a GDP boost of up to Rs 100 trillion. Channelised largely to infrastructure, such stimulus could help achieve the ambitious targets of the National Infrastructure Pipeline. This in turn can create a massive boost to both medium-term growth and 'ease of living'.

Government is rightly cognizant about keeping inflation in control if it wants to keep interest rates low. Low interest rates are important as the debt-to-GDP ratio rises – or else interest can eat into a significant portion of Government's expenditure. The coordination between Government and RBI is smooth: the markets, too, are expected to continue to respond well, especially if the various levers of Government are applied appropriately. Government, as both the largest borrower and the policymaker, needs to continue to walk a fine line between keeping their interest rates low and crowding out the private sector.

With bold steps like accelerated privatization and asset monetization being contemplated, the Government is set to turn a new page in India's economic thinking. Similarly, outcome-oriented schemes like PLIs are very different in conceptualization than input-oriented public policy. The idea of Government focusing on value maximization of its on-the-block PSU banks by transferring their toxic assets to a bad bank is refreshingly different.

3. A session on "Alumni-faculty Partnerships for Case Study Development"

Prof. Vijaya Sherry Chand

Date: April 1, 2021

The basic framework for a case: SOL

- Slicing at an appropriate point in the decision- making cycle
- Occurrence that creates an opportunity to "learn to do"
- Learning Objective: what does the student need to comprehend and apply?

Slicing

Every org is a bundle of decisions. Everything happening today is based on something that happened in the past. Every event is embedded in a series of events.

Six slicing points:

- Raise questions - problem identification
- Answer options
- Choice making process
- Recommendations
- Implementation
- Consequences

Occurrences

- This may not be in your control but can be a trigger)
- Real life happening/event, that forces an examination of the situation and calls for action
- External and internal triggers that force an analysis of the situation

Learning objectives

- First comprehend and then apply:
  - Develop concepts
  - Understand and use techniques
  - Skills in analysis of business problems and decision making
  - Skill in action plans
  - Develop useful attitudes
  - Develop judgement

A case is a classroom instrument which is based on real life. No fictional events allowed. The idea is to "bring the field to the class" and so it needs to have real organizations, real people, real situations. A case is good to the extent in which it helps a student learn and do.

How to make a case:

- Processed through primary data - permissions to be taken - org has to clear the case - Form 2 for clearance - from whoever is authorized to give clearance - mandatory
- Based on secondary data/public data - no org permission needed
- Text form is usual - but multimedia and graphics are also coming up/being tried

Points to note:

- Note that teaching manuals to help instructors are MANDATORY. Describe SOL in detail.
- IIMA Case Centre has well-established guidelines for case writings and the dos and dont's.
    - First get your SOL right.

Types of cases:

- Diagnostic case
- Problem-solving case
- Decision making case
- Implementation case - how do I go about putting this in practice?

Who are you as a case writer?

This is the most important! You are the representative of the learner...of today and tomorrow. The writing must be non-evaluative!

What you are not:

- journalist - create an engaging account - journalistic outlets
- essay writer - academic repository
- researcher - journal, conferences
- story-teller - magazines
- consultant - client-oriented outlets
- evaluator - journal/academic outlets

<u>Remember: vidya-viniyoga-vikas</u>

Advice:

- Create learning opportunities without distorting management phenomena and their contexts - "be an intelligent video camera". Intelligent because I am choosing where to focus but I am not editing or distorting.
- Avoid writing cases where you are a protagonist - IIMA case-partners typically reject such cases. This eventually can end up becoming an issue when registering the case. Best is to pair-up: you write my case; I write your case.
- Clearances at two stages: permission to write; permission to use in classroom - well-defined forms.
- Communicate the purpose of the case provider (protagonist) clearly: this is for class room learning; case is not an evaluation (or a way to get positive publicity, praise, appreciation, etc.)

How to create the partnership between faculty and alumnus:

- Share your commitments (time/convenience)
- You may be in the best position to talk about the 'occurrence' - but why should the student be put in this situation and make them 'do' this case? Get clarity on this upfront.
- Agree on the teaching agenda (occurrence + learning agenda) - don't go ahead before this is done!
- Be aware of relative strengths
- Develop protocol for fieldwork, documenting, drafting, reviewing and quality audit (one has to become an 'auditor' with full authority to enforce guidelines)
- Do not let disagreements linger, keep communication channels open (don't get into power play)
- Stick to deadlines or procrastinate.
- Do not get distracted by something new comes up - retain focus!

Q&A

- Length of a case does not matter – some of the cases can be as small as a page and a half.
- The case can be global or local.
- If you want to do a knowledge sharing (non-case learning instrument), find the right channel. Case is only one of the nine products like exercise, technical note, industry note, teaching note, audio-visual format, graphic cases – these are all teaching materials.
    - Epilogue and supplements are updates on the case.

- Who to connect with? The coordinators.
- There is no upfront payment for writing a case. However, the Case center has a system of payback for authors – there is a certain small token royalty. This is based on usage. However, this opens new doors to new universities, etc. – this can take a long time.
- Case draft is first reviewed; if cleared, then edit support may be available.
- Case writing is not supported – the author should take care of it themselves.
- No limits on number of partners – it is for you to manage. Informally, there is a norm of not more than five.

And yes, a reminder from campus days on the WAC process:

- Problem description
- Option creation
- Based on objectives, apply criteria
- Develop recommendations.

4. A session on "Policy Making: 50 Shades of Grey"

Amber Dubey in conversation with Akhilesh Tilotia

Date: October 9, 2021

YouTube Link: https://youtu.be/Hvku5losmOI

The idea of reaching out to Amber was to glean insights on his role as a public policy practitioner from within the hallowed portal of the government of India (GOI). He is one of the rare entrants into the higher positions of Indian bureaucracy – he joined the Ministry of Civil Aviation (MoCA) as a Joint Secretary in September 2019. The competition for lateral entry was intense – around 6,000 applications were received for the 10 lateral entry Joint Secretary posts across the union government of India: even by the standards of CAT, these were very fiercely competitive positions.

Having spent a couple of years in this role, Amber has a deep insight into what works and how (and more importantly, what does not and why not). We wanted to understand his journey from IIMA to GOI, his learnings as a policy maker, his experiences as a lateral entrant, his advice for the students and aspirants, his accomplishments, and what the future could possibly hold for him.

I have had the good fortune of working with Amber when our roles were reversed: I was serving as a public servant in MoCA in the office of the Minister of State and he was the KPMG partner working closely with the industry and government. Now, while I am back in my role as a private citizen, Amber sits on a government chair. In our public roles, neither of us put the towel on our chairs – maybe that is one way to identify a lateral entrant!

For a public policy group like ours, it is important to know the public policy making process. Many of us have played roles in various government ministries and departments or have engaged with them substantially in our various capacities (corporate, academia, etc.) As IIMA puts together a public policy school and as the students aspire to build a public policy edge in their corporate careers, it is important to deeply understand and interact with the movers and shakers in the policy making process who can bring us up-to-speed and keep us current and relevant. As part of this conversation, we discussed various avenues for the institute, faculty, students, and alumni to engage closely as part of the policy making process or its review.

The journey

From IIMA, Amber headed to consulting and rose to become Partner and head of Aerospace and Defence at KPMG in India. He took the plunge into government service in 2019 when the opportunity opened for lateral entry for Joint Secretary positions. Almost everyone he spoke with advised him not to take up the position or at least, widely cautioned him. His motivation for taking this role came from "*desh sewa*". Having done the material things that the society expected (good education, good jobs, house, car, etc.), giving back is far more rewarding. The mantra, which comes up again in the context of choosing public policy or entrepreneurship as a career pathway, is: "Don't become a philosopher before becoming rich".

Drones

From No Permission No Take-off (NPNT) to trusting the industry, the regulations for drones have come a long way. We discuss the process of change (and not so much the content of what policies changed). Drones can be a double-edged technology: it can be used for peaceful or nefarious purposes, as is the case with many technologies. Defence of the realm is important and hence security considerations have a significant role to play in shaping regulations. For example, the drone strikes in Saudi Arabia (refinery), Iran, Azerbaijan, and the airport shutdown of Heathrow, etc. cast their shadows on policy making.

Policy making from the government needs to deal with many heterogenous entities like the industry, academia, media, and social media. Even within the government, various agencies have different perspectives and due considerations are required to address the issues raised. This leads to the various shades of grey in policy making as the perspectives of the stakeholders are widely differing and different. The process of getting alignment requires getting the various parties together to thrash out a common way forward.

The government, especially at senior levels, has a very important "convening role" – the ability to get the key players together to make progress on an issue. Policy making is deeply consultative involving the stakeholders and public comments: each of the comments need to be recorded and responded to and is open for scrutiny under Right to Information (RTI). This can make the process very long drawn. The process works like a charm if there is a buy-in from the top-most echelons of decision makers.

“The power of one” or the leadership role that individual change agents can play is immense: they exist in the system and need to be found out and encouraged. These individuals working as change agents together can move the system – they need to play a role in allaying the concerns of the naysayers, or resolutely move ahead in face of the cynics (some very interesting ways on how to counter cynics were mentioned!).

Engaging for policy making

The only way for industry and academia to work on policy making is to “engage, engage, engage.” Things may not move for very long but then something changes. Follow the “rule of seven”: for the first seven meetings, nothing may happen. However, the fact that the meetings are taking place is itself a sign of progress as there is engagement and not a dismissal of the idea being discussed.

Perseverance and engagement are critical in any matter of policymaking: they need to be directed at the right decision makers and power centres. The “lower bureaucracy” is engaged in procedures and execution and does not have the power to say “yes” to policy changes; it is only the “competent authority” by virtue of his/her position and the ability to drive the vision that the answer can move to “yes”. Engage at the highest levels and engage them via the power of arguments. Use social media to your advantage to create a coalition and pressure group. The specific example of the drone rules promulgated in March 2021 were discussed: the role that industry and academia played in taking the challenges arising from these rules to the highest office was highlighted. This led to a significant re-evaluation of the rules and in record time.

When framing any policy response, always consider: GI Joe. Always think of Growth, Investments, and Jobs (GI Joe). If you can convince a policy maker, how your proposed rule changes will lead to higher GI Joe, this will make it easier to get their buy-in. We discussed the idea of policy-project-votes (PPV): policy, which is abstract, must eventually translate into projects, which are tangible, and which finally need to be judged on the altar of citizen approval (votes). For any policy to capture the attention of the masses, it must be made very accessible to them: the idea of *GaonMohallaUdanKhatola* and *Svamitva* (for drones) or *Ude Desh ka Aam Naagrik* (UDAN for regional connectivity) was discussed.

There was a clarion call for IIMA to engage closely with policy makers to start making Indian case studies.

Lateral entry

The core of the bureaucracy needs a massive overhaul. The System is very dominant and the processes with the system nurture the bureaucrat and shape his/her nature in a particular manner. It is hence not a question of the person who is in the role (even the bureaucrats come from the same high-rung educational institutes as the best of us) but the system that s/he is a part of.

The lateral entry role is very demanding: there is physical, mental, emotional, and financial stress. There are challenges of assimilation and integration within the system which wants to judge and see your commitment. What gives joy is the impact that the policy making role can create (the idea of drones in remote areas was discussed). Given the lower bureaucracy's lack of willingness to work, a lot of work pressure escalates up to the higher echelons of bureaucracy creating further time and mental pressures. The pay of a government employee even at such high levels is a fraction of the private sector counterpart – which can lead to significant financial stress (and hence, be rich/provided for before doing public service)

The role demands a lot. There are many accusations thrown at him: cases of corruption, RTIs filed, court cases that need attention, etc. One must go in with thick skin. One thing that has worked well for him is the close association in various roles that he has had with the sector and the ministry over the last couple of decades – this gave him an outside-in perspective and helped spare the rigmarole and round-about wild-goose chases that could come about when trying to make change. It is also important to recognise the limits of what can, and cannot, be done: it is best to focus energies on what can be changed – there is no need to try and change the world.

The way to survive this job is: (1) time management and (2) anger/frustration management. The sheer range of who you need to meet, and the scope of work can be daunting. Learning these skills is hence key to survival and sanity.

The concept of an "IAS lobby" that will not let lateral entrant succeed does not hold water: some of the best mentors and supporters have been the IAS colleagues and seniors. One thing the senior bureaucrats are good at is the human knowledge – they have been administrators for all of their careers and what they may lack in domain knowledge, they more than make up on their ability to get their men/women to work. Their ability to understand what works on the ground is critical to their success. On a different but similar note, for MBA students, it will be far more useful if they have dabbled in entrepreneurship or a long corporate life before they come to policymaking: this will enrich their ability to prioritize what to work on and how to create impact.

What should IIMA PP ASIG do to be effective

It is important to recognize where the change making power rests. At the top is the political leadership, then bureaucracy, then the various services, and finally the industry bodies and academia. Be sharp in creating the right access and approach the challenge of change from the very top: the power to make the change real rests there. Remember that getting technical inputs for any policy design is not difficult – indeed the challenge is in choosing which path to take. Use the power of good arguments well presented in social media to create the right access and impact. Create actionable ideas via constructive criticism. Keep engaging, be persistent, be specific, go deep.

5. A session on "Policy Conversations: Production Linked Incentives"

Ishtiyaque Ahmed in conversation with Prof. Viswanath Pingali and Prof. Saral Mukherjee

Date: October 29, 2021

YouTube Link: https://youtu.be/7qRXV4UAFj4

India's status in Exports:

India lags substantially in exports as it ranked 13th in terms of Export value and its world share in merchandise trade is only 2.1%. The reason behind this is that the major share (70%) of India's export is of traditional products, which counts for only 30% of the World trade.

Even in 2020, the top five exports of India include traditional items, but it has also managed to add pharmaceuticals and machinery and its parts to the list, which are part of world's top five exports. Considering China and South Korea as examples, GDP per capita and the exports travel together, which proves that exports are very important part of the growth for the country.

Manufacturing Growth of India:

Export is a force of efficient manufacturing. Manufacturing sector in India has not witnessed a similar growth as service sector. The share of Service sector in the GDP has increased from 33.25% in 1950-51 to 54.4% in 2018-19, while the share of manufacturing sector has only been 16.8% in 2018-19. Due to the limited growth of manufacturing sector, India has not been able to create well-paying jobs that was necessary for the labour force coming out of the primary sector.

Government of India has carried out following reforms for efficient manufacturing and making India more competitive for industries:

- GST and Competitive Tax Regime
- Insolvency and Bankruptcy Code
- 29 Labour laws replaced by 4 Codes
- Liberalized FDI Policy: Increased FDI demonstrate increased absorption capacity, increased Return on investment and the economy growth
- Simplifying Land Acquisition

- Ease of Doing Business - Federal and State Levels: This is being done in partnership with the World Bank, where every state is ranked on a number of parameters
- Reforms in railway, coal and mining, defence, civil aviation sector

GoI also introduced following schemes for Manufacturing and export sector:

- Merchandise Exports Incentive Scheme (MEIS) in April 2015: The scheme was in operation only till December 2020 as it revealed the following drawbacks:
    - Resources were used across a large number of tariff lines, not creating desired impact
    - The scheme per-se did not withstand the test of WTO rules
- PLI for three sectors was launched in March 2020, subsequently 10 more sectors approved in November 2020

Production Linked Incentives Scheme (PLIS):

Due to the ineffectiveness of MEIS, incentives were needed to spur manufacturers and scale up their production capabilities. Based on the consultations with the industry and line ministries, it was decided to focus on the limited areas of strength where the country can create global champions based on the factors like larger scale employment, high rate of growth and scale, etc.

Sectors Selected for PLI Scheme:

Sectors		**Allocated Fund (In Rs.)**
Sunrise Sectors	Advanced Chemistry Cell Battery Storage	18,100 Crores
	Large Scale Electronics/ Hardware	45,951 Crores
	High Efficiency Solar PV modules	4,500 Crores
Labor Intensive Sectors	Textiles	10,683 Crores
	Food Processing	10,900 Crores
Key Sectors for penetrating Global Value Chains	Automobiles & Auto Components/Drones	26,058 Crores
	Pharmaceuticals/ Bulk Drugs / Medical Devices	24,050 Crores
	Telecom & Networking Products	12,195 Crores
	White Goods (Air Conditioners & LED)	6,238 Crores
	Specialty Steel	6,322 Crores
Total Outlay		**197,291 Crores**

Sector wise Rationale:

1. ACC Battery:
   - One of the largest global economic opportunities of 21st century
   - India would require 1116 GWh of advance batteries to fulfil its domestic demand - based on analysis of overall demand for advance batteries till 2030
2. Electronic/Technology Products:
   - India's Digital Economy is worth ~US$200 billion; likely to grow to US$1 trillion by 2025
   - Domestic value addition is expected to grow
3. High Efficiency Solar Photovoltaic Modules:
   - Presently, 80% of solar PV panels are imported from China. Its reliance will be reduced by creating 10000 MW manufacturing capacity of integrated solar PV manufacturing plants
4. Textiles:
   - One of the biggest employments generating sector
   - More than 5% share of global exports by India
   - To encourage large manufacturers to bring technology and build capabilities for high value MMF (Man-made fibers) Apparel
5. Food Processing:
   - Indian agri exports have only 20% share of processed food sector
   - To encourage manufacturing Ready to Eat / Ready to Cook (RTE/RTC) food, marine food, fruits and vegetables and mozzarella cheese
6. Advanced Automobiles and advanced components:
   - India's share in global automotive trade is significantly low (<2%)
   - High cost of disabilities due to inefficiencies in the enabling infrastructure
7. Pharmaceuticals/ Bulk Drugs / Medical Devices:
   - Indian pharmaceutical industry is the 3rd largest in the world in terms of volume and 14th
   - largest in terms of value (US$40 billion)
   - To increase its share in global exports from 3.5% to at least 5%
8. Telecom and Networking Products:
   - Hugely import dependent industry

9. White Goods:
    - 75% of the AC components are imported
10. Speciality Steel:
    - We are importers of specialty alloy steel

Objectives of PLIS:

- Ensure efficiency and economies of scale in the manufacturing sector in key sectors to create and nurture global champions
- Make Indian companies globally competitive to penetrate in the global supply chains
- Attract large scale investments in selected sectors and create higher employment opportunities

Key highlights of the PLIS:

- The PLI scheme will be operational for a limited period of 5 to 7 years
- It incentivizes only the high-performance beneficiaries who are able to demonstrate incremental YoY production
- Allows flexibility to adjust inter-sectoral allocations based on sectoral performance
- Focuses only on the players capable of larger investments; prefers scale over spread
- Aims to build manufacturing units with capacities to cater to both domestic and export markets
- Targets higher domestic value addition to enable capture of a larger fraction of the gross production
- Aims to showcase India as an attractive investment destination for large multinational companies
- It is applicable to both domestic and foreign players equally
- It has balanced selection of sectors with opportunities, employment generation and penetrating into the global value chain

PLI scheme will not only help in increasing the manufacturing, but it will also reflect significant rise in domestic value, export, investment and employment.

Is PLIS only for big players?

PLI scheme is majorly for the big players having large-scale production capacity, who have potential of being global champions, but in some ways, it incentivizes the smaller players as well. E.g., Telecom and Food processing sectors

The bigger players have to create an ecosystem and it is supported by the SMEs in order to optimally utilize the capacities and build efficient manufacturing process.

Determining the Growth Rates:

In terms of the factors of production like cost of capital, logistics, etc., India is incurring more cost in terms of other countries which creates financial disability. Therefore, the benefiting factors for the investors can be market size, geographical location, absorption capacity, etc.

The scheme has worked well for the Electronic sector, while for the API and bulk drugs sector, the beneficiaries have been selected. For the PLIS for other sectors, the process of selecting beneficiaries is going on. Since the production part of a particular product varies from industry to industry, it is very early to determine the success of the scheme.

If any sector is unable to fully utilize the allocated fund, there is a mandate which allows diverting the same to other sector that performs.

The impact of PLIS on Technology Upgradation:

If you provide the opportunity like FDI or PLIS, the investments and the production are bound to increase, and to achieve efficient production, you need efficient technology to increase the cost effectiveness.

Determining the right targets for the Manufacturers:

The targets given are determined on the basis of Industry consultations. They might look steep, but they are not unrealistic and impossible to achieve. If the government is going to give money, the targets are going to be tough, but people are still applying and committing to the targets because GoI is going to incentivize 5-7% of the production.

There can be Indian or foreign manufacturers, but the production needs to take place in India. Also, the target market varies from sector to sector. E.g., Textile sector (Specifically man-made fibers and man-made fabrics) has greater opportunity for exports, while automobiles sector has larger domestic market.

Support required from other policies of GoI:

Every state has to participate in this since everything can not be central policy driven.

1. Export Preparedness Index:

   The states are evaluated on four broad parameters, that are policy, business ecosystem, export ecosystem and export performance. There are in total 56 indicators under this index which help creating action points for different states.
2. Export hubs are to be developed so that the remote areas can also participate in the exports
3. Develop critical infrastructure, e.g., Gati Shakti for infrastructure projects

How to incentivize materials used in multiple applications?

As of now, lot of high technology components are imported which will be produced in India in 5-6 years if the sectors achieve the value addition targets. In the PLIS, the targeted value additions have been mandated.

Acknowledgements

Akhilesh Tilotia	PP ASIG Alumni Coordinator 2021 and 2022; PGP 2004
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Praveen PA	PP ASIG Alumni Coordinator 2022; PGP ABM 2004
Kamal Gaur	PP ASIG Member; PGP 2004
Anurag Choudhury	AVP – Alumni and External Partnerships, IIMA; PGPX 2010
Vidhi Desai	Executive – Alumni and External Relations, IIMA
Siddhartha Matta	IIMA Students Public Policy Club Coordinator, PGP 2022
Nikhil Srivastava	IIMA Students Public Policy Club Coordinator, PGPX 2022

Annex: Profile of Webinar Series Speakers

Alphabetical with first names

Prof. Abhiman Das

Prof. Abhiman Das is currently the RBI Chair of Finance and Economics at the Indian Institute of Management Ahmedabad (IIMA). He is also the Chairperson of the Misra Centre for Financial Markets and Economy, IIMA. He was the Chairperson of the Doctoral (PhD) Programme in Management of IIMA and was also the Chairperson of the Economics Area.

He is a Macroeconomist by profession and Statistician by training. He holds master degrees on Statistics and Population Science, and stood first class first in both. After his Ph. D. in Population Science, he went to MIT Department of Economics, Cambridge, US, for his post-doctoral studies in Economics. He is the recipient of Prof. C. R. Rao National Award in Statistics for Young Statisticians in recognition of his outstanding contribution in the field of Statistics. He is also the recipient of the Prof. P. C. Mahalanobis Medal instituted by the Indian Econometric Society for his outstanding contribution in Quantitative Economics.

Prior to joining the IIMA, he has experience of working over two decades with the Reserve Bank of India (RBI) on monetary policy formulation, modeling and forecasts, designing and implementation of surveys relating to households, banks and corporates. He has published papers on banking, monetary policy, inflation expectations and household surveys in international journals like Journal of Applied Econometrics, European Journal of Operations Research, Omega, International Journal of Forecasting, among others. He has worked as members of several committees relating to central banking, monetary policy, national accounts, price measurements, survey design, etc., set up by RBI and the Government of India. He was a consultant to the Central Vigilance Commission, Government of India for developing Integrity Index of the Public Sector Organisations. In recent years, he has been involved in NSSO survey design and implementation, measuring survey based business inflation expectations, understanding of MSME policy issues, and surveys on financial inclusion

Akhilesh Tilotia

Akhilesh has experience in areas of public policy, strategy formulation, and entrepreneurship. He is currently Principal – Strategic Initiatives and Policy Advisory at NIIF's Mumbai office. In this role, Akhilesh is responsible for building research and a few strategic initiatives.

Prior to joining NIIF, Akhilesh was a part of the Axis Bank where he led strategy for the Axis group. He has served in a unique position of Officer on Special Duty with a Union Minister in New Delhi where he was closely involved in public policy formulation and implementation in the civil aviation sector. He has also worked with Kotak Institutional Equities and set up their thematic research unit. He co-founded Park Financial Advisors, a boutique wealth management and financial planning company. Akhilesh started his career with The Boston Consulting Group.

He is a prolific columnist and commentator in the business media and has been known for bringing his unique perspectives to his commentary on topical issues primarily through the lens of a Government officer, a thematic analyst, an investment banker, a consultant, and a personal financial advisor. His best-selling book, ***The Making of India – GameChanging Transitions***, makes a case for converting the gaps in public services and economic fulfilment into opportunities for the private sector. His upcoming book, ***Through the Looking Glass***, views the India story from the perspectives of the various arms of Government which he observed closely in his three-year stint in New Delhi with a Union Minister.

Akhilesh has done his Bachelors from St. Xavier's College, Calcutta and holds a PGDBM from IIM Ahmedabad.

Amber Dubey

Shri Amber Dubey is Joint Secretary at the Ministry of Civil Aviation, Government of India.

He is an alumnus of IIT Bombay and IIM Ahmedabad and has a professional experience of over 29 years. He was one of nine professionals selected in 2019 by the Government of India to join as Joint Secretaries on a lateral entry basis

At Ministry of Civil Aviation (MoCA), Shri Dubey is looking after drone sector, flying academies, IT and skill development etc. He's also the Acting Vice Chancellor of the Rajiv Gandhi National Aviation University (RGNAU), Amethi (UP).

Earlier, Shri Dubey was India head of aerospace and defence at global consultancy KPMG. While at KPMG, Shri Dubey worked closely with MoCA in drafting the Vision 2040, National Civil Aviation Policy (NCAP 2016) and the policy framework for the Regional Connectivity Scheme (RCS). He assisted MoCA in drafting the 12th Five Year Plan for aviation. He had also advised various airports, airlines, cargo, MRO and ground services companies in Indian and abroad.

In 2012, Shri Dubey was honoured for 'valuable contribution to Indian aviation' by the then aviation minister.

Ashim Sood

Ashim Sood is a lawyer involved in constitutional and commercial law cases in the Supreme Court, High Court, other courts and before arbitral tribunals, and that my areas of interest include technology, free speech, censorship, and privacy law.

He appears as counsel for litigants in claims and defences in courts and arbitral tribunals in India as well as internationally. He is briefed to represent parties in the Supreme Court; for writs and original side litigation before state High Courts, and for shareholder and commercial disputes before arbitral tribunals (ICC Rules; SIAC Rules; LCIA Rules). He also appears regularly in cases before the National Company Law Appellate Tribunal and the Securities Appellate Tribunal. From 2017 until July 2020, Ashim served as the Government of India's standing counsel in the Delhi High Court. He has also acted extensively for the Serious Fraud Investigation Office. In 2021 Ashim was named a ranked lawyer for arbitration by Chambers and Partners.

Erik Feyen

Erik Feyen is Head of Global Macro-Financial Monitoring in the Finance, Competitiveness, and Innovation Global Practice of the World Bank Group. In this capacity, he leads the global monitoring and analysis of key macro-financial vulnerabilities and trends. He co-leads the Bank's analytical work on the future of finance, advises on fintech-related country operations, and regularly coordinates IMF - World Bank collaborative efforts such as the Bali Fintech Agenda and the joint staff position on the regulatory and supervisory implications for the banking sector stemming from the impact of the COVID-19 pandemic. Erik holds a Ph.D. in Finance from the University of Amsterdam and an M.S. in Technology, Policy, and Management / Electrical Engineering from Delft University of Technology. He regularly lectures at Columbia University.

Ishtiyaque Ahmed

Mr. Ahmed is working as Adviser NITI Aayog and looking after work related to industry, taxation, mining, commerce and MSMEs. He has worked extensively in the Government of India in the area of FDI policy formulation, FEMA regulations, multilateral negotiations and foreign collaboration with over two decades of experience in the field of direct taxation in different capacities handling corporate, non-corporate and international taxation. Recently, he has been involved in the making of production linked incentive scheme in some of the key sectors of the economy.

Kamal Gaur

Kamal Gaur is a PGP from our 2004 batch and is a blockchain enthusiast who is passionate about helping people understand the world of blockchain, bitcoin and cryptocurrency. In his non-crypto avatar, Kamal is a management professional with experience across various domains, including analytics & strategy, and is currently based out of Bangalore/Bombay. Kamal has volunteered to help work with IIMA PP ASIG drive this webinar series, in which we will be talking to multiple stakeholders to better understand this space and come up with a set of recommendations towards public policy

Meyyappan Nagappan

Meyyappan Nagappan is a Leader in the International Tax practice at Nishith Desai Associates. He leads the tech and tax practice, impact investment, social finance, tax policy and GST practices at NDA. He regularly advices several top technology companies on tax and structuring issues, from an international tax and GST perspective including on upcoming technologies and digital products such as blockchain, crypto and gaming. He regularly speaks at the International Bar Association conferences and other tax conferences both in India and abroad.

Sandeep Nailwal

Sandeep Nailwal is a Co-Founder of Polygon (previously Matic Network). He has been involved with many tech businesses since his very early days. Scaling is his key focus, be it in businesses or blockchains, but he is an all-around business buff. Sandeep had his 'lightbulb moment' about the revolutionary nature of blockchain in 2017, found his calling in the scalability arena and co-founded Matic Network (now Polygon) alongside Jaynti Kanani and Anurag Arjun. As a Co-founder of Polygon, Sandeep is based out of India with their tech teams. His main responsibilities include spearheading the branding, marketing, adoption and operations at Polygon, and partnering with key stakeholders to push forward the vision of Polygon.

Prof. Saral Mukherjee

Saral Mukherjee is a faculty in the Production & Quantitative Methods Area and Dean – Alumni and External Relations at IIM Ahmedabad. He specializes in Operations Management and is involved in research, teaching and consulting in the area of supply chain redesign, operations strategy, marketing-operations interface, inventory policies, process analysis and project management. He has been awarded the 'Marti Mannariah Gurunath Outstanding Teacher Award' in 2014. Teaching experience spans long duration programmes like PGP and PGPX as well as short duration executive education programmes and faculty development programmes. He has published in reputed international journals and designed and delivered customized training programmes for national and multinational firms. He has served as the Chairperson of the Placement Committee (2008 - 12) and Chairperson of IIM Ahmedabad Case Centre (2014 - 16) apart from other administrative roles.

Subhash Chandra Garg

Subhash Chandra Garg is Economy, Finance and Fiscal Policy Strategist. He served as Finance Secretary (March 2019-July 2019) and Economic Affairs Secretary (July 2017-July 2019) of India. He has also served as an Executive Director in the World Bank (September 2014-June 2017). Shri Garg is a 1983 batch IAS officer of Rajasthan cadre. Shri Garg has over 34 years of experience in administration, management, and public policy, in finance and several development sectors - agriculture, education, energy and rural development. He has managed government finances both at the Centre and in the State of Rajasthan.

Sumit Gupta

Sumit Gupta is co-founder and Chief Executive Officer (CEO) of CoinDCX, the cryptocurrency exchange and liquidity aggregator. Beginning his journey in the world of business at the age of eight, Sumit showed an early proclivity for entrepreneurship. When Bitcoin began gaining traction in 2014, Sumit saw the potential of leveraging blockchain technology to enable financial inclusion. He actualised this vision by founding CoinDCX, which has grown to become India's largest cryptocurrency exchange. At CoinDCX, Sumit has been the driving force behind onboarding millions of Indians into crypto. He holds an Undergraduate and master's degree from the Indian Institute of Technology Bombay.

Shri Tarun Bajaj, IAS

Shri Tarun Bajaj assumed the responsibility of the Secretary, Department of Economic Affairs, Ministry of Finance on 1st May, 2020. He belongs to the Indian Administrative Service, 1988 batch, Haryana Cadre. Shri Bajaj has a bachelor's degree in commerce from Delhi University, MBA from IIM Ahmedabad and Postgraduate (M.Sc.) from London School of Economics and Political Science.

Shri Bajaj before joining the Department of Economic Affairs worked as Joint Secretary and Additional Secretary to the Prime Minister from April 2015 to April 2020. He has served as Joint Secretary, Department of Economic Affairs in 2014-15 and as Director and Joint Secretary in the Department of Financial Services from 2006 to 2011.

Shri Bajaj has over 31 years of experience in Administration, Management and Public Policy. He has primarily worked in the areas of Finance and Industry. Shri Bajaj has also served on the Boards of SIDBI, Bank of Maharashtra, Bank of India, New India Assurance Company, United India Insurance Company. Shri Bajaj currently chairs the National Investment and Infrastructure Fund (NIIF). He is currently also the Director on the Central Board of the Reserve Bank of India and SEBI. Shri Bajaj serves as Governor of India for International Fund for Agriculture Development (IFAD), and as Alternate Governor of India for the World Bank, Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB) and New Development Bank (NDB).

Prof. Vijaya Sherry Chand

Prof. Chand is a Professor and Chairperson, Ravi J. Matthai Centre for Educational Innovation, IIMA. His teaching interests are Educational innovation, communication, research methodology, socio-cultural and socio-political contexts of business.

After obtaining a diploma (specialization in Agriculture) from IIMA in 1982, he worked for eleven years in social development. He then joined the Ravi J Matthai Centre for Educational Innovation

(RJMCEI) at IIMA as Fellow in 1993, obtained a PhD in Education (educational philosophy of Mahatma Gandhi) from Gujarat University in 1997, and was appointed to a faculty position the same year.

His administrative responsibilities at the IIMA have included chairing the JSW School of Public Policy (2017-19), Communications Advisory Committee, the Ravi J. Matthai Centre for Educational Innovation, the Faculty Development Programme, the Admissions Committee, the Financial Aid and Awards Committee and the Postgraduate Programme in Agri-business Management, Dean (Alumni & External Relations), Editor of Vikalpa: The Journal for Decision Makers, the IIMA's journal (2012-15) and membership in various committees. Member of the IIMA Board (2017-19).

Prof. Viswanath Pingali

Prof. Viswanath Pingali is a faculty in Economics area at IIM Ahmedabad since 2012. His areas of research interests include Industrial organization, pharmaceuticals, and behavioral economics. He currently chairs the PGPX programme at IIMA. He has done his Ph.D. on Industrial Economics and Econometrics from Northwestern University.

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