

OKONOMOS

HANSRAJ ECONOMICS SOCIETY

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PRINCIPAL'S MESSAGE



Dr. Rama
Principal
Hansraj College

Hans Raj College is a prestigious institute that has always been one of the sought-after colleges in India. In its 69 years since inception, it has acquired the distinction of being one of the top six colleges out of 13500 colleges in the country.

The heritage of the college is distinctly visible from the accolades it has achieved across fields in academia and other non scholastic spheres.

I'm extremely delighted to know that the Economics Department of Hansraj College is publishing 20th Edition of their Economics journal 'Okonomos'.

It is a creative channel for students to express their views on pertinent economic and social issues concerning our lives.

I congratulate the department for their initiative and I wish them best of luck for more such endeavors

FACULTY MESSAGES

Okonomos is a tradition that we at the department of economics at Hansraj are proud of. It is an annual culmination of the learnings and intellectual interactions among the students and faculty and a reflection of the widening academic horizons of our students. As the head of the department I congratulate the students for having kept this tradition alive and come up with another brilliant edition inspite of the odds that the pandemic has presented to us. Happy reading and may you all learn on!

MS ALKA KAKKAR
HOD, ECONOMICS DEPARTMENT



I would like to congratulate and thank the entire team of the prestigious Economics council and editorial board for coming out with yet another edition of this journal. Even in these trying times, when the students are not able to meet physically and communication is a challenge, the economics council has displayed exemplary team work and dedication. I wish the students all the very best for all their future endeavors. May all of you have a safe time and be at your creative best while spending days away from college.

MS SONAM
STAFF ADVISOR, ECONOMICS DEPARTMENT



EDITORS' MESSAGES

After grappling with a global pandemic since the past two years, the fight against Covid-19 has finally come to a much-awaited standstill. After many restrictions on one's fundamental freedom caused by recurrent full or partial lockdowns, during which time phrases like "vax," "containment zone," and "quarantine" entered our vocabulary and took on significant meanings, the restrictions have finally been loosened. With schools, colleges and corporates shifting onsite, students and employees are now faced with the added challenge of adapting to offline examinations and work culture.

The hit the pandemic took on the economy was staggering, which led to a whopping 7.3% decline in the first quarter of the fiscal year setting the record for worst decline observed since 1996. But is Covid-19 the only antagonist in the tale of our nation's economic decline? Certainly, there is more to this story, which dates back to 24th February 2022, when in the name of "special military operations" Russian troupes forcefully entered the Ukrainian border and what was followed was Europe's largest refugee crisis since World War II.



MANI SHUKLA



AISHANI KATYAL

EDITORS' MESSAGES

Through this issue of Okonomos, we aim to methodically examine the root causes and address the fundamental issue that triggered the war. We also look at what kind of impact the war is having on the global economy and the Indian economy in particular, and why ending the conflict is an imperative not just for Ukraine but also for the world that has been battered by high prices of everything, from food to fuel. Lastly, we look at the fatal combination of the war and adaptation to the post Covid scenario by India and how its causing enormous pain and hardship for millions of poor households, force firms and businesses into bankruptcy, and make our financial stability vulnerable.

This year's Okonomos also includes articles from guest authors on various topics exploring the nuances of economics and amalgamate it with social, technological and political angles. We sincerely hope that the reader finds this issue of interest and finds pleasure in reading about the nitty gritty of the various aspects of the topics covered.



**TEAM
ARTICLES**



POLITICO-ECONOMIC ORIGIN OF THE CONFLICT

By Drishti Rastogi and Khusleen

“One Vladimir created modern Ukraine, and another is now un-creating it.”

-Big Think

Revolution of dignity:

In November 2013, a wave of large-scale protests (known as Euromaidan) erupted in response to President Yanukovich's sudden decision not to sign a political association and free trade agreement with the European Union (EU), instead choosing closer ties to Russia and the Eurasian Economic Union

Like the Crimean Peninsula, the administrative regions (oblasts) of Luhansk and Donetsk are regions where a particularly large proportion of the population speaks Russian as its mother tongue and is ethnically Russian. The situation is similar in Zaporizhzhia, Kharkiv, and also Odesa.

As a counter to Revolution of Dignity of 2013 and 2014, it was in these parts of Ukraine where the opposition to Ukraine turning more towards the West was strongest. Militant Russian separatists — presumably with support from Moscow — began fighting for control of the region while at the same time, Russia made the most of the power vacuum in Kyiv and annexed Crimea.

“OPPORTUNITY IS THE THIEF”- CRIMEAN ANNEXATION.

Most importantly, control of Crimea gave Moscow continuing access to the naval base at Sevastopol, home to Russia’s Black Sea Fleet. Sevastopol’s warm water port, natural harbor and extensive infrastructure make it among the best naval bases in the Black Sea. While Russia’s earlier lease of



Sevastopol ran through 2042, due to recent events Russia had become increasingly concerned that its future access might be compromised. Operating from Sevastopol, the Black Sea Fleet provided Russia with the ability to project power in and around the Black Sea, while also serving as a potent symbol of Russian power. By annexing Crimea, Russia had not only conquered the former home port of Russia's once-proud Black

Sea fleet but also gained a port that is ice-free all year round near its European part for the first time since the collapse of the Soviet Union.

Additionally, control of Crimea provides Russia with important strategic defense capabilities. Together with advanced combat aircraft stationed at Crimea's Kacha and Gvardeisk air bases, this can significantly enhance Russia's air defense capabilities on its southern flank.

BRIDGE TO MEDITERRANEAN CONNECTIVITY:

However, for now, Crimea is still an exclave. It is only connected to the Russian mainland via a bridge over the Kerch Strait that opened in 2018. By conquering all of Donbas, Russia gains Mariupol's port access with links to Crimea and the Mediterranean.

THE ECONOMIC SUCCESS OF PREWAR DONBAS: THE FIRM BASE FOR A PROSPEROUS FUTURE?

Following the post-communist transition depression, economic recovery in the region from the late 1990s was largely driven by exports of goods and services, which peaked in 2011 at US\$24.66 billion, accounting for a remarkable 30% share of Ukraine's total exports, twice the region's population share. However, with the slowdown of the global economy in the 2010s, Donbas's exports dropped sharply to US\$16.75 billion in 2013, shrinking to 21.4% of Ukraine's total, though remaining the nation's top exporting region overall.

That year, Donetsk province exported US\$12.41 billion worth of goods and US\$640 million worth of services; Luhansk province's merchandise exports stood at US\$3.55 billion, with the export of services accounting for US\$157 million. In terms of trade composition, ferrous metals (steel), fuel (coal) and railway locomotives comprised three-quarters of the region's commodity exports, whilst transport (rail and sea) made up the bulk of the exported services. Russia and the other Eurasian Economic Union countries accounted for 32% of Donbas's merchandise exports in total, being the most important market for Luhansk province (41.4% of exports), and its heavy engineering and railway transport firms.

The EU took 28.2% of Donbas's exports, whilst the largest share (39.8%) went elsewhere. Indeed, the bulk of Donetsk province's exports (44.8%) was destined for the markets outside of Europe and the former USSR. Despite the region's foreign trade success, Donbas has failed to attract any

significant amount of inward foreign direct investment (FDI). By the end of 2013, Donbas's share of national FDI stock had not even reached 8%, and the per capita FDI stock amounted to just US\$808 in Donetsk and US\$394 in Luhansk provinces, respectively. In terms of domestic capital formation, the region was more successful: between 2000 and 2013, Donetsk province reported a 37.4pp increase in capital investment, compared to Ukraine's 14.6pp increase. Since 2000, Luhansk province has more than doubled its capital stock, investing 8% per annum into domestic capital, on average. The export boom has turned Donetsk into a major business and asset management hub, with two dozen of Ukraine's top 200 companies maintaining their headquarters in the provincial capital, including Metinvest, DTEK, ISD, DonetskSteel and Donetsk Railways.

The surplus of local company profits from steel exports and other semi-processed manufactures was routinely channeled to offshore tax havens: by 2014, 83% of Ukraine's total outwards FDI originated from. Some of the foreign cash windfall enjoyed by the largest Donbas firms has also found its way into the pockets of ordinary people. Donbas's annual gross personal income in 2013 reached UAH35,642 per capita (US\$4,459 or €3,359 in current market prices); Donbas's income level was 6% higher than the national average of UAH33,668. That was despite the fact that the region's output per head in 2013 was Ukraine's average: 14.5% of the country's total population generated 14.5% of its GDP.

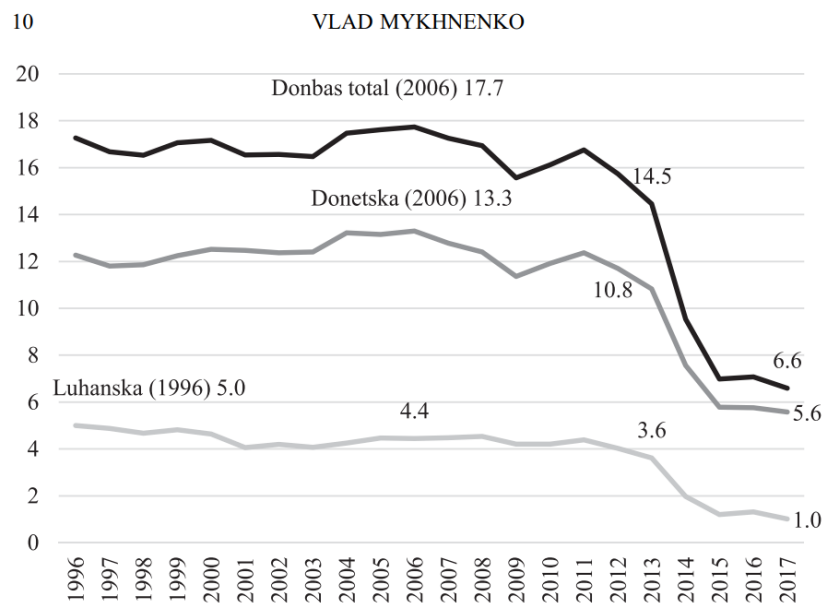


FIGURE 3. THE ECONOMIC SIGNIFICANCE OF DONBAS: PROVINCIAL SHARES RELATIVE TO UKRAINE'S GDP, 1996–2017 (%)

Source: Calculated from Ukraine State Statistical Service (various years), 'Statystychna informatsiia', available at: <http://www.ukrstat.gov.ua/>, accessed 13 June 2019.

The residents of Donetsk province were 12% (US\$500/€400 a year) better off than the average Ukrainian, with gross annual personal income in the province reaching UAH37,680 per head (US\$4,714/€3,551). The partial explanation for this was that salaries and wages in Donbas have been amongst the highest in the country: in 2013, an average employee in Donetsk province earned the country's second highest wage of UAH3,755 per month (US\$470/ €366), whilst his or her counterpart in Luhansk province was paid UAH3,337 a month (US\$417/€325), the fourth highest wage in Ukraine. However, primarily as the result of scarce employment opportunities, the standard of living in Luhansk province was rather mediocre, standing in 2013 at UAH31,692 per capita a year (US\$3,965/€2,986), that is, 6% lower than the national average. In terms of gross disposable income, Donetsk province remained Ukraine's second most prosperous province throughout the 2000s (after Kyiv), whilst Luhansk province chronically lagged behind.

NATO- No Action Talk Only?



After the end of the Cold War, NATO, the counterpart to the now 30 years defunct, Soviet-led Warsaw Pact, continued to expand eastward, right up to Russia's borders violating its major demands of:

- An end to NATO military activity in eastern Europe, including Ukraine, the Caucasus and Central Asia
- No expansion of NATO membership, particularly to Ukraine

THE SHOCK THERAPY BACKFIRE:

Following the collapse of the Soviet Union 30 years ago, American economic advisers convinced Russia's leaders to focus on economic reforms and put democracy on the back burner—where Putin could easily extinguish it when the time came. This is no trivial historical contingency. Had Russia

become a democracy, there would have been no need to talk about the North Atlantic Treaty Organization and its eastward expansion, no invasion of Ukraine

By choosing capitalism over democracy as the foundation for the post-cold-war world, the west jeopardized stability, prosperity and, as we now see again in Ukraine, peace and democracy—and not only in eastern Europe.

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GLOBAL IMPLICATIONS OF RUSSIA-UKRAINE WAR

By Aagya Mehta

The Russian invasion of Ukraine was a watershed moment in global security, the global economy, and our global energy infrastructure. While we live in a globalised society, it is impossible to confine a war like this to a single location. We can't confine radiation within one country's geographical borders, and we can't protect one country from supply chain fragility.

This new kind of hybrid conflict, with its severe humanitarian crisis, cyber attacks, economic woes, disinformation and

propaganda campaigns, geopolitical tensions over energy supplies, and the possibility of nuclear war, will have far-reaching consequences.

There will be three main channels via which the effects will be felt. One, increased costs for commodities such as food and energy would drive inflation higher, diminishing the value of incomes and putting downward pressure on demand. Two, adjacent economies will face disruptions in commerce, supply chains, and remittances, as well as an unprecedented

increase in refugee movements. Finally, lower company confidence and increased investor uncertainty will put downward pressure on asset values, tightening financial conditions and perhaps causing capital outflows from emerging markets.

Russia and Ukraine are important commodity producers, and the interruptions have driven up worldwide prices, particularly for oil and natural gas. Food prices have risen sharply, with wheat shipments from Ukraine and Russia accounting for 30% of global exports.

Countries with direct trade, tourist, and financial exposures will face extra pressures in addition to global spillovers. Oil-importing economies would have larger budget and trade deficits, as well as increased inflation pressure, however certain exporters, such as those in the Middle East and Africa, may gain from higher prices.

Increased food and fuel prices may exacerbate the likelihood of unrest in several countries, ranging from Sub-Saharan Africa and Latin America to the Caucasus and Central Asia, while food insecurity in parts of Africa and the Middle East is likely to worsen.

Should energy commerce move, supply chains rearrange, payment networks divide, and governments reassess reserve currency holdings, the battle might radically upset the

global economic and geopolitical order in the long run. Increased geopolitical tensions exacerbate the dangers of economic fragmentation, particularly in trade and technology.

EUROPE

In Ukraine, the toll has already been enormous. Unprecedented sanctions against Russia will stifle financial intermediation and trade, resulting in a deep recession in the country. The fall of the ruble is boosting inflation, further lowering people's living standards.

Because Russia is a major source of natural gas imports, energy is the primary spillover channel for Europe. Wider supply-chain disruptions could have serious consequences. These repercussions will exacerbate inflation and slow the pandemic's recovery. Eastern Europe will face increased finance costs as well as an influx of refugees. According to UN estimates, it has absorbed the majority of the 3 million refugees who recently evacuated Ukraine.

Additional spending on energy security and defence budgets could put economic strain on European countries.

While foreign exposure to Russian assets is small by global standards, pressures on developing markets could increase as investors

seek safe havens. Most European banks, likewise, have small and manageable direct exposures to Russia.

CAUCASUS AND CENTRAL ASIA

Beyond Europe, the recession and sanctions in Russia will have a wider impact on these bordering countries. Closer trade and payment-system ties will stifle commerce, remittances, investment, and tourism, wreaking havoc on economic growth, inflation, and the external and fiscal accounts.

While increased international prices should assist commodities exporters, energy exports could be harmed if sanctions are extended to pipelines through Russia.

MIDDLE EAST AND NORTH AFRICA

Higher food and energy prices, as well as tighter global financial circumstances, are likely to have major consequences. For example, Egypt imports over 80% of its wheat from Russia and Ukraine. In addition, as a popular tourist site for both, visitor spending will decrease.

Policies aimed at containing inflation, such as increasing government subsidies, could put additional strain on already strained fiscal balances. Furthermore, worsening external

financing conditions may encourage capital outflows and add to growth challenges for countries with high debt levels and significant financing requirements.

In some nations, such as those with weak social safety nets, few job possibilities, limited fiscal headroom, and unpopular administrations, rising prices may exacerbate social tensions.

SUB-SAHARAN AFRICA

At a time when the continent was slowly recovering from the pandemic, this catastrophe jeopardised that progress. Many countries in the region are particularly vulnerable to the war's consequences, owing to rising oil and food costs, diminished tourism, and the possibility of problems accessing international credit markets.

The dispute arises at a time when most governments have limited policy options to mitigate the shock's effects. This is expected to exacerbate socioeconomic pressures, public debt vulnerability, and scarring from the pandemic, which was already wreaking havoc on millions of homes and businesses.

Record wheat prices are especially worrying for a region that imports around 85% of its supplies, with Russia and Ukraine accounting for one-third of that.

WESTERN HEMISPHERE

The main source of spillovers will be food and energy prices, which will be significant in some circumstances. High commodity prices are expected to accelerate inflation in Latin America and the Caribbean, which currently has an annual rate of 8% in five of its main economies: Brazil, Mexico, Chile, Colombia, and Peru. Central banks may have to defend their credibility in combating inflation in the future.

Costly goods have a variety of growth consequences. Higher oil prices damage importers in Central America and the Caribbean, but exporters of oil, copper, iron ore, corn, wheat, and metals can raise prices to offset the impact on growth.

Financial conditions are still good, but escalating conflict may result in global financial turmoil, which, combined with stricter domestic monetary policy, will put downward pressure on growth.

Although the US has little linkages to Ukraine and Russia, which dilutes direct effects, inflation was already at a four-decade high before the war pushed commodities prices higher. Once a result, as the Federal Reserve begins to raise interest rates, prices may continue to rise.

ASIA AND THE PACIFIC

Because of the absence of direct economic linkages, spillovers from Russia are likely to be modest, but slower development in Europe and the global economy will have a significant impact on key exporters.

The petroleum importers of ASEAN nations, India, and frontier economies, including several Pacific Islands, would see the most significant repercussions on current accounts. This could be exacerbated by a drop in tourism in countries that rely on Russian visits.

Because fiscal stimulus will support this year's 5.5 percent growth goal and Russia only imports a small percentage of China's exports, the immediate repercussions for China should be limited. Nonetheless, rising commodity prices and falling demand in major export markets add to the difficulties.

Japan and Korea may experience similar spillovers as a result of additional oil subsidies. India's inflation will rise as a result of higher energy prices, which is already beyond the central bank's goal range.

Local production and a greater dependence on rice rather than wheat should alleviate Asia's food price difficulties. Imports of high-priced food and energy will raise consumer prices,

though subsidies and price restrictions for fuel, food, and fertiliser may mitigate the immediate impact—at a cost to the government.

GLOBAL SHOCKS

The consequences of Russia's assault on Ukraine have already shook not only those countries, but the region and the world as a whole, emphasising the significance of a

global safety net and regional agreements to cushion economies.

While some effects may take years to manifest, there are already clear signs that the war and the resulting increase in the cost of essential commodities will make it more difficult for policymakers in some countries to strike the delicate balance between containing inflation and supporting the pandemic's economic recovery.



THE GLOBAL FOOD CRISIS

By Archishman Chaudhuri

INTRODUCTION

Keeping aside the obvious humanitarian crisis that any war spawns, this war has caused massive damage to several countries across the globe, burning a hole in many a person's pockets as the CPI has soared exponentially. What has the CPI got to do with the global food crisis you ask? Well, food is a major component of the Consumer Price Index (CPI), which is the relative prices of a basket of goods with respect to the prices in the base year. As per the International Monetary Fund, it accounts for about 40% on average, while it may account for more than half the cost of living for consumers in particular developing countries. Taking cognizance of this crisis, 'The 2022 Global Report on Food Crisis estimates about 180 million people in 41 countries could be in a food crisis, due to conflicts, weather extremes, and economic shocks which include the impact of the Covid-19 pandemic. In war-ravaged Yemen, this food crisis could very well be the tip of the iceberg, with approximately 19 million forecasted to experience hardships this year, which is 63% of the country's population in all.

IMPACT OF THE WAR ON FOOD PRICES

The UN's Food and Agricultural Price Index reached an all-time high of approximately 160 points in March, before falling subsequently. In India, wheat which was selling at ₹2,124 in May last year, is now being sold at ₹2,582, an increase of over 21%. Overall, Ms. Okonjo-Iweala, the Director General of the World Trade Organization, has stated that the global wheat prices have risen by 59%, sunflower oil up by 30%, and maize by 23%. The net food importing countries, which mostly rely on the Black Sea for imports of wheat have been feeling the heat most, such as Turkey and Egypt, which import more than \$10 billion and \$5 billion worth of wheat alone from the two warring nations. In Lebanon, the price index skyrocketed on April 15, 2022, recording an astounding increase of 3291.9% since 2020. Turkey and Egypt meanwhile have turned to India, the world's second-largest producer of wheat, for help.

Ukraine grows enough food to feed 400 million people, and exports 54 million tonnes of agricultural produce annually through its ports. It exports 15% of its corn, 50% of its sunflower oil, and along with Russia, accounts for approximately 30% of the world's wheat.

With the ports of Odesa, Chornomorsk, and several others cut off from the rest of the world by Russian warships, supply via the inefficient and unreliable land routes has been difficult, causing prices to surge.

Ukraine has accused Russia of targeting agricultural infrastructure like silos, railroad bridges, and the like, which is essential for Ukraine to export. Anthony Blinken, U.S. Secretary of State states, "The Russian government seems to believe that using food as a weapon will help accomplish what its invasion has not, to break the spirit of Ukrainian people." In such uncertain times, the United Nations is leading efforts to establish a 'grain corridor' (As of now, Ukraine remains hesitant in the absence of 'effective security guarantees'), with a Turkish naval escort for tankers leaving Odesa and other Ukrainian ports.

GLOBAL EXPORT BANS

In light of such skewed prices, many countries have placed a ban on the export of key food items, in a bid to stabilize prices and protect domestic markets. Case in point, Indonesia. The country has imposed a ban on palm and palm kernel oil till December 31, 2022, in light of the Russia-Ukraine war, alongside other factors like the Covid-19 pandemic and the

Malaysian labour shortage. When measures like the introduction of market cap and export controls failed to bring down the surging prices, the Indonesian government “had no choice but to implement this harsh but necessary action,” as per finance minister, Sri Mulyani Indrawati. Other countries to have implemented a ban include Serbia, Egypt, Turkey, Tunisia, and Kuwait.

A key observation for the reader at this point is that in light of the export bans of food commodities, there would be a domino effect on the energy markets. Cereals and vegetable oils are a major component of biofuels, an attractive alternative to fossil fuels. As the European Union races to reduce its dependence on Russian Oil and Gas, it must bear in mind the rising prices of vegetable oils (The EU produces 34% of the world’s biodiesel from vegetable oil, as per data from the Organization for Economic Co-operation and Development - Food and Agriculture Organization).

IMPACT ON INDIA

Consumer Price Index

Food constitutes over half the bundle of selected goods used for calculating the Consumer Price Index in India, and the current rise in prices has meant that the CPI has increased by over 10.5% since January, 2020.

Wheat Export Ban

The country is currently experiencing one of the worst heat waves in history, and the high fertiliser prices (these prices have tripled over the past year), probably coupled with the high prices brought on by the Russia-Ukraine war, have prompted it to ban wheat exports. Despite this, the Food and Agriculture Organisation has stated that “exceptions to the export ban for previous contractual commitments, government-to-government sales, and food security purposes are expected to support an overall forecast of 7 million tonnes in 2022-23, remaining well above India’s export average over the past 5 years.”

Sunflower Oil

This is the commodity that has been most hard hit in Indian markets. In the international trade of crude sunflower oil, Russia and Ukraine cumulatively export 100 lakh tonnes annually, with Argentina in 3rd place with ~7 lakh tonnes. Refined sunflower oil constitutes 10% of India’s consumption of 23-24 million tonnes of all edible oils annually, with the country importing 60% of its requirement. This in turn makes it highly susceptible to adverse changes in global trade, oilseed production, and regulatory changes.

Now, although the trading of Russian food products has not been prohibited, the trade

settlement process has become difficult, leading to supply disruptions. This in turn has pushed edible oil processors toward Argentina, albeit with a huge material shortfall in volume. On the global spectrum, sunflower oils have recorded a stunning 207% increase in prices over the past 2 years, with prices rising from \$700 on March 13, 2020, to \$2150 on May 18, 2022.

CONCLUSION

To sum it up, the ever-worsening food crisis has shocked the world, with several people pushed into poverty. As per the World Food Program, nearly 811 million people are chronologically hungry, 276 million are living on the brink of starvation, and approximately 49 million are living in 43 countries on the brink of famine. This makes up roughly 1/8th of the world's population. In the words of the United Nations Secretary General, “This year’s food access issues could become next year’s global food shortage.”

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CHOOSE YOUR BATTLES WISELY: RUSSIA'S ECONOMIC SITUATION

By Pratyasha Panigrahi

The war is raging on in Ukraine. But the destruction is caused in Russia too. The common Russians are in a bad condition. The Russian currency, Ruble, has crashed in the last few days, now, there are long lines outside the ATMs in Russia. The Banks are out of cash to give to people. People have started hoarding phones and electronic items and they are buying as many as they can, because these are the only things whose value wouldn't depreciate. The hard-earned money of the people has started losing its value. Thousands

of Russians that deal with foreign countries aren't getting their salaries. There's so much inflation that people are worried that Russia might end up like Venezuela. Why is it happening in Russia? When a country goes to war, how does it affect the economy of the country? How are the citizens affected? These are seldom discussed topics. This will shock you. Because you can't even imagine that in today's day and age, what a Superpower Country has to go through, when that country

goes to war. Even though the war isn't fought in the country. Let's take a look.

Sanctions from the west are already having a major impact on Russia's economy. A 30% loss in value is seen in ruble. Many people are worried about their income. MNCs such as Microsoft, Apple, Samsung, HP, Intel, all stopping new sales. At McDonald's, final orders, it's suspending business in Russia. All western businesses are shutting down. Everyone who can is leaving. Netflix has pulled out. TikTok, won't allow posts by Russian users. The Ruble: worth less than a penny! A study conducted by the Centre for Economic Recovery, claims that in the first four days Russia had to incur expenses to the amount of \$7 billion for starting this war. Approximately more than ₹500 billion. This was only for the first four days. With the continuation of the war, the same study has estimated that this cost can eventually cross \$20 billion per day for Russia. It means that each day Russia has to spend \$20 billion to fight this war. This is only the direct expense borne by the Russian government. The Russian taxpayers' money is used for fighting this war. But this is only the tip of the iceberg. Let me list out the impact of the responses from the rest of the world.

33 countries have closed off their airspace for Russian airplanes. It means that Russian aircrafts aren't allowed entry into the airspace of those countries. It includes the USA, Canada and numerous European countries. The result? According to the estimates, about 150,000 Russian tourists in these countries who were there for a visit, it is now extremely difficult for them to return. Airbus and Boeing, the two major aircraft building companies in the world decided that they would stop sending their spare parts to Russia and to the Russian airlines, and would suspend their operations in Russia. In the near future, it would be very difficult for anyone to fly into Russia or to fly out from Russia. Moving on, the major clothing companies and shoe brands, like H&M, Puma, they have suspended their operations in Russia. BMW, Volkswagen, Mercedes, Jaguar, Toyota, and Honda, the major car companies, stopped exporting their cars to Russia, and their operations in Russia. Ikea, a major furniture company from Sweden, has closed down all its stores in Russia. Airbnb, quite useful for travelers, have now stopped their operations. Netflix has made it impossible for Russians to sign up for new accounts by withdrawing the option.

The big tech companies, Apple and Microsoft have said that they would stop selling their products in Russia. Samsung, a South Korean company, wouldn't ship its products to Russia. Imagine that these major multinational companies, whose products and services we use in our daily lives, for the Russians, suddenly they can't access them anymore. The oil giants, like BP and Exxon Mobil, they had similar responses too. BP has said that it would dump the 19% stake in the Russian state-owned energy company. It shows that the foreign companies are pulling out their investments from Russia and the other foreign companies that were thinking about investing some money in Russia, have since dropped the idea. These affect the economy of a country and the funds that are available to it. Apart from this, the two most powerful bodies of football, FIFA and UEFA, they have decided to suspend the Russian team from all international soccer events. Formula 1 racing, the Grand Prix was supposed to be held in Russia, it stands cancelled now. Visa and Mastercard, two of the biggest payment processing networks in the world, millions of their credit cards are used worldwide, the two companies have decided to block Russian banks. 74% payment transactions in Russia, were processed through Visa and Mastercard. They wouldn't work now.

The international payment transfer companies Remitly and Wise, the two have also suspended their Russian operations. Apple Pay, Google Pay and Samsung Pay orders that the Russian banks against whom sanctions have been issued, cannot use these platforms either. Making normal payments for the daily lives have become difficult for people. That's why people ran to the ATMs, to withdraw cash. And we can imagine what happens when a large number of people try to withdraw cash. Banks were not able to manage. If everyone wants to withdraw their money from the bank, it isn't possible and led to a situation of Bank Run. ATMs are running out of cash and people are desperate. After all this, the stock market of any country would crash horribly. That's why, for a week, the Russian stock market was closed. Ever since Russia invaded Ukraine, the Russian stock market hasn't opened up for trade. Fearing a major crash when they open next, they're keeping it closed as long as they can. The examples that are mentioned about till now, were of multinational companies that decided to suspend their operations in Russia.

But apart from these, Governments have also taken action against Russia. Governments have declared sanctions against Russia. Broadly speaking, sanctions mean imposing a penalty or punishment on a country for violating an international law or for their aggressive

behavior. These punishments can be imposed on a country via various means. But mostly, they are economic sanctions. They target and attack the economy of a country.

A major sanction imposed on Russia currently, is the SWIFT block. The Russian banks have been cut off from the SWIFT system. SWIFT stands for Society for Worldwide Interbank Financial Telecommunications. It is a payment system used internationally by more than 11,000 financial institutions. More than 200 countries used this globally. The central bank of almost every major country uses this SWIFT system. The USA, Japan, India, China, any country you can think of. But the SWIFT system doesn't actually move the money. It merely communicates the source, amount, and destination when money is to be moved. Overall, the SWIFT code can be considered as the postcode of a bank. If you have to transfer money from SBI to an American friend's account in an American Bank, along with their account number, you will write down the SWIFT code of the bank, and when you send the money, SWIFT will work by communicating to the bank the fact that money is being transferred and the amount of transfer. Since Russian banks have been cut off from SWIFT, it means that neither can Russian banks accept money from international sources nor can they send money. But the interesting

thing is that, Russia isn't the first country this has been done to. Before this, Iran was blocked from SWIFT access.

It resulted in Iran losing one-third of its foreign trade. But it isn't like Russia wasn't prepared for this. Because when Russia invaded Crimea in 2014, lighter levels of SWIFT sanctions were imposed on Russia. Since then, Russia worked on creating its domestic messaging system for payments. This would lead to severe effects in the short term, but in the long-term, Russia will come up with some way or the other, and will develop its payment processing system. Another major example of these sanctions is freezing the assets of Russia's central bank. The thing is, the central bank of every country has some foreign exchange reserves known as Forex Reserves. The reason for maintaining forex reserves is that payments have to be made to other countries or for facilitating any global trade. Like every country, Russia's central bank maintains reserves in US Dollar. It keeps some amount with itself in US currency. America and other countries have frozen these dollar reserves. They have decided that they wouldn't accept the USD Russia has. Russian ForEx will now be a complete waste! It amounts to \$630 billion. There's another very shocking and interesting way to impose sanctions. Putin, his friends, and Russian billionaires, own assets

outside Russia. They have properties in foreign countries. Private airplanes and huge yachts, the US and other countries have decided that all these assets, properties and private planes, would be seized. As a specific example, a Russian oligarch named Egor Sechin, had a superyacht worth \$120 million, a uber-luxury boat, the French government has now seized it. They've kept the yacht with them. Fearing this, the Russian billionaires, are moving their yachts to countries where the Western governments cannot seize them. Like the Middle East or the Maldives. According to the news, at least 5 superyachts of Russian billionaires were found in the Maldives. Apart from this, any property they own in foreign countries, is being seized.

Flight bans are imposed on the Russian oligarchs. They wouldn't be allowed to travel anywhere outside Russia. There's a simple reason behind taking these actions, to pressurize Putin to stop this war. When these Oligarchs and Russian billionaires are targeted, people who are said to be controlling Putin, it's possible that they can convince Putin into stopping this war. One thing that proved very hard to cut off from Russia, was oil and gas. For European countries, one-third of their gas supply is from Russia. They import gas from Russia. And if they cut that off, the gas price in the European countries would skyrocket. And

where would they get gas from? Despite that, Germany suspended the approval of Nord Stream 2 Pipeline, a pipeline that's already built, but they hadn't begun using it. How can they overcome their existing gas dependency on Russia? They are trying to come up with alternatives. America, being the big brother, says that they have large oil and gas reserves, and are willing to send to Europe, so that Europe can cut off their dependency on Russia.

But anyway, these measures are so harsh that the Russian Ruble, Russia's currency, is crashing so fast that it is unbelievable. In 2012, \$1 was equal to ₺30. At the beginning of 2022, \$1 was around ₺70, but since this war began, as of the day of this recording, \$1 is poised to cross ₺150. Their currency is losing its value this rapidly. The money that people had earned and saved is now losing value. There's high inflation. People fear hyperinflation. Apart from this, people can't use the basic payment systems. People are trying to get cash from the banks but can't. It has a terrible impact on the common citizens of Russia. What can the citizens do? People are going to supermarkets and are buying electronic items like laptops and smartphones, because these are the assets whose value isn't depreciating. The money they have with the banks is losing its value, and the currency is losing its value. But if they hoard the electronic items at home, they'd be

sure that they wouldn't lose value. They'll be able to sell it in a foreign country at the same price.

In the near future, the standard of living of an average Russian would fall. Many people would be pushed into poverty because of this.

Unemployment and inflation are also rising. Russia invaded Ukraine. The war is being fought in Ukraine. But the common Russian people are paying the price with their own money.



DEPRECIATION OF THE INDIAN RUPEE

By Ketav Rastogi & Ujjwal Anurag

In recent months, global economic conditions have shifted dramatically, with escalating geopolitical shocks from the Russia-Ukraine conflict fueling widespread risk aversion and a surge in crude oil prices. These factors, along with the start of rate hikes by the US Federal Reserve, are putting the Indian rupee to the test. It had declined in recent weeks against the US dollar, reaching 76/\$ on March 16 from 74.5/\$ before the Russia-Ukraine conflict began on February 24. In comparison to the 2013 taper tantrum, the local currency has suffered less damage this time (the last time

elevated oil prices and prospects of liquidity tapering by the Fed had rocked the currency).

Other emerging market (EM) currencies have also experienced orderly currency movements, depending on their reliance on crude oil and the extent to which the US Fed's actions have been priced in. As a result, the rupee has declined more rapidly than its peers.

As the Russia-Ukraine conflict roiled sentiments, strong month-end US dollar demand from oil importers, and mass

withdrawals by foreign portfolio investors and institutional investors from the Indian market, the rupee became Asia's worst-performing currency. Geopolitical uncertainty fueled a sell-off in risk assets, and oil prices surpassed \$100 per barrel, causing the rupee to fall the most since June 2021. The west's sanctions against Russia, as well as the Fed's 25 basis point increase in key interest rates, have contributed to the rupee's depreciation against the US dollar.

However, the rupee volatility was much lower this time. With foreign exchange intervention, which is also part of inflation targeting, the rupee has been largely devoid of any serrated volatility, which has benefited the INR's appreciating bias, which has also helped keep imported inflation in check.

During Indian time, the central bank may consider the NFD (non-deliverable forward) market rather than the offshore market via banks, as this has the advantage of not affecting rupee liquidity. Arbitrage will also be reduced.

IMPLICATIONS

The Indian government faces a challenge as the rupee falls in value. While a depreciated currency benefits exporters by increasing their

cost competitiveness, it hurts importers by reducing their purchasing power. According to Commerce Ministry data, India's trade deficit increased to \$21.19 billion in February from \$13.2 billion in the previous year.

India is currently import-dependent on crude oil, importing 85 per cent of its crude oil requirements. Any increase in crude oil prices will have a significant impact on domestic gasoline and diesel prices. Furthermore, the cascading effect of higher fuel prices will cause a general inflationary trend.

The Consumer Price Index (CPI), which measures retail inflation in India, already exceeded the Reserve Bank of India's target range in January. The increase was attributed to rising commodity prices. According to industry estimates, a 10% increase in crude oil prices adds nearly 10 basis points to CPI inflation. Broad inflation is thus likely to rise, and the central bank will struggle to keep interest rates at record lows for much longer.

The rupee's ongoing depreciation is also set to make foreign currency borrowings more expensive for India Inc, at the same time that companies are feeling the pinch of rising commodity prices and a falling rupee.

CHALLENGES FOR THE RBI

The Reserve Bank of India is facing challenges as a result of the current uncertainty (RBI). The Reserve Bank of India has been active in the foreign exchange market, actively supporting the rupee. The central bank can print dollars to reduce volatility. However, for the first time in a year, the forex pile has fallen below \$600 billion. Forex reserves have been depleted by \$36 billion by 2022.

As part of its liquidity management, the RBI also held a 5 billion rupee swap auction to infuse dollars and suck out the rupee. The RBI sold \$5.135 billion to banks and agreed to buy the money back after two years. It sucked out rupee liquidity worth \$5.135 billion at a rate of 76.91 per dollar in the process. The intervention of the central bank will relieve pressure on the rupee and help to moderate imported inflation. The rupee regained some of its lost ground following the swap auction.

The intervention to halt the rupee's fall is consistent with the reversal of ultra-accommodative monetary policy implemented by many central banks in recent months. While the RBI declared a dovish policy and avoided raising interest rates, the intervention and swap auction will have the desired effect of

normalising monetary policy through liquidity absorption.

While markets may anticipate RBI interventions and swap auctions to protect the rupee, if volatility caused by geopolitical tensions persists, the RBI may be forced to allow the rupee to fall. If the market believes it is not doing so and is attempting to keep the rupee strong, there may be a speculative attack on the rupee because it is not a sustainable strategy when India has higher inflation, lower interest rates, and will not be comfortable losing more than \$100 billion or \$200 billion.

HOW IT WILL IMPACT YOUR LIFE

Loans: There will most likely be an indirect effect on loans. As the rupee falls in value, import prices rise, making goods and commodities more expensive. This increases inflation. With rising inflation, the RBI is considering changing the repo rate, which has already been raised by 40 basis points to 4.40 percent. High repo rates cause banks to raise their lending rates, making EMIs more expensive. Banks have already raised loan rates.

Inflation and interest rates are moving in the same direction. In order to keep inflation under control, interest rates are raised. High interest rates will make borrowing more expensive, discouraging consumers and businesses from spending on large-ticket items. In short, it will restrict the availability of funds for the purchase of riskier assets. A high repo rate reverses the wealth effect, making banks more hesitant to lend.

Cars and other items: As the rupee falls in value, imported items such as luxury cars and car components are likely to become more expensive. This means that the price of such items will eventually rise. Furthermore, items that require imported components, such as phones and appliances, are likely to become more expensive.

Stocks: Rupee depreciation is also a result of foreign investors withdrawing from Indian equities. This means that equity markets could fall sharply, resulting in a drop in stock and equity mutual fund investments.

Foreign education: will become more expensive as the rupee loses value against the US dollar. Because of the depreciation of the rupee, one will have to give more rupees for every dollar. As a result, students studying

abroad or planning to relocate abroad will need to restructure their budget.

Foreign travel: With summer vacations approaching, this is the season for international travel. Furthermore, travellers anticipated finally taking a trip abroad with relaxing COVID-19 cases. As a result, consumers who were expecting and planning vacations abroad will now have to spend more money.

Remittances: Non-resident Indians (NRIs) who send money back home, on the other hand, will end up sending more in Rupee value.



**GUEST
ARTICLES**



INFLATION WOES AMIDST DEFICITS, DIPLOMACY AND KALASHNIKOV

*Ishroop Kaur Brar
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An acknowledgement of the pernicious impact of inflation is all it takes for economic players ranging from micro-level entities to macro-level policy think tanks to feel the pulse underlying the spiralling prices, whilst unleashing stringent measures to curb the wallet-pincher. With retail inflation scaling an 8-year high of 7.79% in April 2022, India suffered another blow of the supply-side crunches stoked by the ongoing Ukraine-Russia tensions materialize: April being the third consecutive month to record an inflation rate beyond RBI's targeted band of 2-6 %. Crude oil prices leapfrogged to over \$110 per barrel in March, and continue to be high, as major economies of the world embargoed oil and natural gas imports from Russia. From the Indian perspective, India's import bill rose, the ban on export of wheat, although intended to secure domestic food supply amidst dropping yields, severely impacted foreign exchange

earnings. Truly a trade-off. India's decision to continue with oil imports from Russia at

discounted rates has still managed to keep the economy from drowning any further,

despite the opposition and the constant nudge it faced from the West to embargo Russian oil and natural gas.

As inflation rocks the world, even testing public patience and stoking protests in the UK and Ecuador, an insight into what the RBI has done so far to keep a cap on and gradually bring down inflation, and what it can still do is imperative. In an attempt to restrain the shooting inflation rates, the Fed announced a litany of monetary policy measures, with the spike in interest rate making headlines and raising concerns for national economies that peg their currency values to that of the US Dollar. A similar path was adopted by the RBI Monetary Policy Committee (MPC), which hiked key interest rates to 4.9% while keeping pace with the Fed's measures. With the global political crisis and conflict unlikely to ebb soon, the supply-side crunch and consequent ripples of shocks to national economies taking a while to phase out, the Fed looks ahead to an uptick in the interest rates till the inflation abates. And this has already put India in a cleft stick; while India is riddled with inflation, it is also experiencing a 'Black Swan Event' of twin deficits and sustained capital outflows burgeoning to an estimated \$100 billion from the foreign portfolio investors, averaging up to 3.7% of India's GDP, and setting the ball rolling for depreciation of

the Rupee against the Dollar. Terming India's 'Capital flows at risk', a recent study by the RBI points out how this can potentially accentuate financial vulnerabilities and aggravate macroeconomic instability while adding up the burden on the economy. Such FPI outflows may scale up to 7.7% of the GDP, thus necessitating the need to maintain adequate contingency liquid reserves as a backup. If anything, India must look at its neighbourhood to self-reflect and introspect its policies, lest any nonchalance pulls the nation's otherwise promising economy into the abyss of a financial crisis.

Such a crisis isn't new to India; one can take a detour to the 1990s, when the Indian economy was riddled with high inflation, plummeting foreign exchange reserves and rising import bills, which were eventually attended to by a slew of economic reforms. Contemporary challenges, however, can't be resolved merely by digging up and searching the annals of history and searching for readymade solutions. To narrow down on a sustainable and quick stabilization measure, it is imperative to recognize the source of inflation and the context in which it is amplified. While the archaic conventional prescription of tightening monetary and fiscal policies may cushion any more jerks to the economy which are highly likely to ensue given the

rising political and economic instability and trickling credibility in the system, there is a pressing need to ensure that there are enough arrows in one's quiver; as pointed out in the study, we must shift our focus on equipping our economy with and revamping our stocks of international reserves for use as a reliable safety net, and use them sagaciously to maintain the internal as well as external equilibrium.

In uncertain times like these, it is essential that India acts in the direction of and expands its scope of dependence on national interests with more nations, using diplomacy and dialogue when need be, and boosts the domestic production of those goods on which it is heavily import-dependent. For instance, to cut down on its import bill India should actively promote domestic oilseeds production, 60% of which are currently imported from other nations. This shall not only make India self-sufficient but also reduce domestic prices of oilseeds by cutting down on imported inflation, especially when crude oil prices surge world over. An associated sector is the fertilizers industry. At present, India is the leading importer fertilizers. This explains why supply-side contractions of Urea and DAP following the Ukraine invasion pinched India the most; prices of DAP, for instance, rose from \$900 per ton to \$1000-1100 per ton. Reports suggest that

the government's overall fertilizer subsidy outlay to meet the current fertilizer consumption could be as high as roughly Rs 2-3 Trillion. Grassroot level, concerted efforts at reducing the usage of fertilizers with the collaboration of the state and the central governments, scientific researchers and environmentalists, and by giving incentives to farmers to switch over to organic farming and crop diversification can reduce the stress on the import bill. If the nitty-gritty of numbers could highlight the gravity of the situation, then the fact that India's total value of fertilizer imports, including the import of raw materials used in domestic production, touched the \$24 Billion mark in 2021-22 should ring alarm bells especially now that global prices have leapfrogged.

A double whammy for the economy, another major area of concern is the depreciation of Rupee against US Dollar. The spike in interest rates by the Fed and the consequent FPI outflow has made the Rupee stumble down to its lowest, Rs 78.29 a Dollar. This snowballs into and accentuates other challenges for Indian economy in general and the external sector in particular, as foreign goods particularly crude oil become all the more expensive and raise the import bill of the economy. The final impact of currency depreciation and expensive imports is ultimately borne

by the consumers who have to shell out more rupees to purchase goods and services, especially essentials like food and fuel. Faced with widespread consumer dissatisfaction, the government finds itself in a tight spot where it will have to cut down its much-needed tax revenue to relieve the burden on its citizens. While the RBI assures that Indian foreign exchange reserves stand strong, global developments must be studied with an eagle's view and steps to stabilize the exchange rate readied.

Past experiences of inflation control and stabilization measures have had one thing in common: fiscal restraints albeit necessary are not sufficient conditions for increasing credibility and bringing stability. A sound management of two important nominal variables, exchange rate and money supply, is required to augment the former measures. While the imposition of strict monetary controls, cap on

seigniorage, establishing monetary discipline, and stabilization through a nominal anchor i.e., exchange rate, determine the success of stabilizing the economy, context-specific responses, macro-level view of the causal factors with micro-level attention to each concerned variable, while making full use of cooperative federalism is what can support the Indian economy as it faces global price irregularities, demand-supply disruptions and possible opposition as it secures its mutual interests. There is a pressing need to restore credibility, bring the MPC decisions in tandem with the steps taken up by the RBI to ensure that steps to tighten monetary policy and reduce the households' backward-looking expected inflation, and carefully examine any concomitant decline in growth or employment in the course of curbing inflation.



HOW BLOCKCHAIN CAN ADDRESS THE ECONOMIC PROBLEMS SURROUNDING US

By Arushi Jain

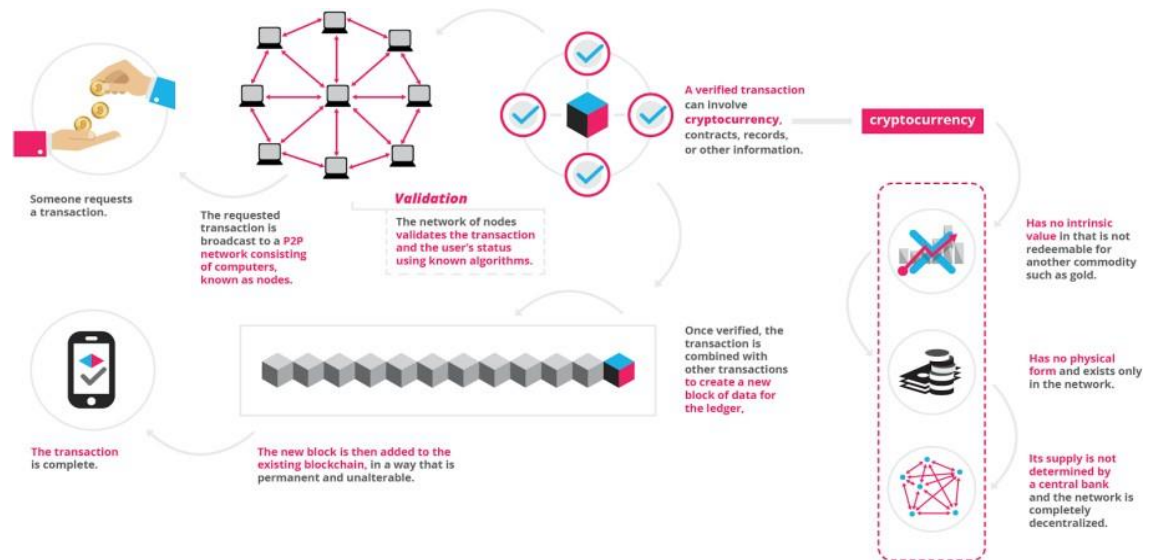
Hansraj College, DU

Introduction

The advancement in technology has made us increasingly connected in this digital age. The world of blockchain is no longer as demystified as it used to be. With the economy booming, more start-ups and unicorns are giving their time, resources, and money to get into a hands-on blockchain environment.

Understanding blockchain- Before moving further, let's recollect what 'blockchain' means. A 'blockchain' is a particular type of data structure used in some decentralized distributed ledgers that stores and transmits data in packages called 'blocks' that are connected to each other in a digital 'chain'. Each block contains information on transactions and business activities, and the entire network uses a consensus algorithm to reach an agreement on which block will be attached to the currently recognized chain of blocks.

Blockchain technology is a manifestation of the more general distributed ledger technology (DLT), which embodies the infrastructure and process for a network to generate a consensus record of state changes or updates to a synchronized ledger distributed across various nodes in the network. Cryptocurrencies like Bitcoin and Ethereum are primarily stored on Blockchain Technology.



[Figure 1: Transactions on Blockchain](#)

The Importance of Economics in Blockchain to address global challenges

The latest news indicates that there are 1,000 Ph.D. economists in the tech sector- Over the last decades, top tech companies have been hiring economists at a fast pace. The tech giant- Amazon is leading the way with a team of more than 150 Ph.D. economists. Thus, Blockchain platforms must be incentive-compatible to ensure stakeholder adoption and contribution in order to drive value for the system.

Economics drives a platform's ability to maximize user adoption, dictate a user's choice over an alternative platform, and define user value-generating behavior. Economists and computer scientists have spent decades thinking about the design of markets and incentives like smart contracts, information systems, monetary policy, and game theory with platform economics, and this work has found new applications in the digital economy."- Prof. Susan Athey, Stanford University.

How the future investment in Blockchain can address global economic concerns

Cybersecurity expert Dr. Mashael Al-Sabah has rightly said in the MIT Technology Review that “Technologies like blockchain don’t ensure anonymity, but with the proper understanding, they can provide privacy, security, and even freedom

Blockchain is becoming an inevitable phenomenon owing to the core-enabling technologies and significant opportunities it offers to digital businesses. According to reports, global spending on blockchain is estimated to go up and is expected to cross \$15.9 billion by 2023. Almost every single industrial section is looking to adopt blockchain technology and reap its benefits- not only in banking and fintech but in the supply chain, media companies, agriculture, healthcare, and education as well.

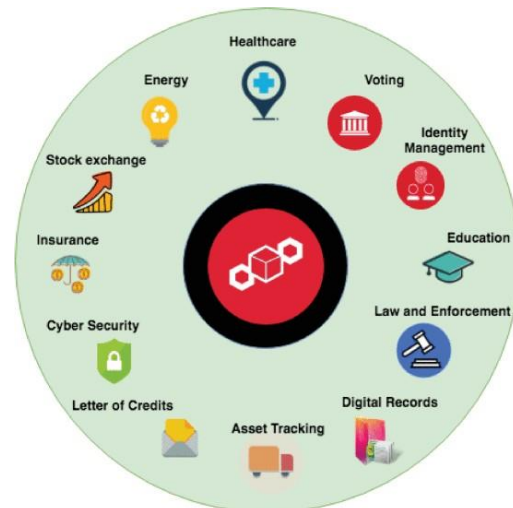


Figure 2: Applications of Blockchain Technology

But the question is that despite blockchain’s various applications, does it really have the power to solve worldwide economic problems? Let’s have a closer look at the economic issues which can acquire blockchain economics to eradicate them from our planet.

1. The advancement of underdeveloped and developing nations

Despite the digital revolution and subsequent growth that has been experienced in first-world countries over the past 20 years, rules and regulations regarding pollution combined with infrastructure challenges place developing nations at a severe disadvantage. For example, the World Bank Group has recognized that the lack of broadband across Africa and India is severely limiting the regions’ access to digital technologies critical for economic development, energy requirements, educational advancement, and the continuity of public services. Many developing countries don’t have the efficient robust banking, internet, or electronic systems needed to benefit from global digital

transformation despite growth in GDP. Adopting blockchain technology and cryptocurrency could be key to helping these nations “leapfrog” – a process that involves taking advantage of new technologies to bypass traditional stages of infrastructure development and close gaps.

In societies with underdeveloped financial systems, cryptocurrencies such as Bitcoin can be greatly beneficial, negating the need for heavy investment in banking infrastructure. Blockchain’s microgrid system can enhance energy production, consumption efficiencies, and reliability by facilitating, recording, and validating cost-friendly power selling and buying transactions in microgrids. The potential is so great that PWC suggests that, by 2030, the technology could boost the global economy by \$1.86 trillion by raising levels of tracking, tracing, and trust.

2. The World Trade and Regulation

Currently, there are a lot of inefficiencies, fraud, and errors in world trade as it is conducted through a chaotic set of business relationships between parties that are untrusted. A list of the real-world supply chain problems which need to be solved are:

- Counterfeit auto parts.
- Counterfeit medicines.
- Adulteration in the food supply chain.
- Fake fashion apparel and luxury items.
- Counterfeit electronic equipment, including medical devices.
- Cross-border payments

These issues in the supply chain are life-threatening. This is mainly because the business ecosystems are fragmented, only partially automated, and lack a trusted central authority to certify the authenticity and track provenance.

Blockchain is one such technology that will bring about anti-disruption- it will bring order and act as a force for unification. When adopted and used correctly, the DTL can enhance the performance, flexibility, maturity, and convenience of international transactions while cutting costs, helping level the playing field between those who can afford financial services and those

who can't. It can offer financial inclusion for traders in developing countries, allowing them to fully participate in the global economy by providing a safe, affordable solution to cross-border transactions. Globally, the technology can also drive better communication and collaboration across the financing industry and banking sector, and radically improve supply chain management as seen in many countries.

3. Advancing Healthcare and increasing data integrity

The current healthcare system is compromising many patients' health due to manipulated prices of drugs resulting in unaffordability. Furthermore, It relies heavily on the interaction between patient and physician and works on limited data which results in a mediocre healthcare system that keeps failing to take advantage of the data making it more tedious, less secure, and subject to misinformation. Moreover, It is estimated by the WHO that 16% of counterfeit drugs have the wrong ingredients, while 17% contain an imprecise level of essential ingredients. The challenges to be addressed in the healthcare sector are-

- Drug counterfeit
- Data segmentation
- Poor management
- Healthcare security and data storage

Blockchain can revolutionize the healthcare sector through its interoperability, data integrity, security, maintenance cost, and universal access. Its applications are as follows-

- Drug Traceability**- Blockchain solves drug counterfeit by providing time-stamped and immutable transactions across the supply chain.
- Clinical Trials**- Improves Clinical Trial monitoring and effectiveness by removing frauds and data manipulation. This will further improve healthcare by a long shot
- Patient Data Management**- Offers personalized, on-point treatments and customized access to a patient's data thereby maintaining integrity.
- Claiming and billing**- By removing intermediates, blockchain can improve both these aspects of the healthcare industry.

4. Blockchain identity For All- Additional Layer of Security

By 2030 or even sooner, every individual and their virtual or physical assets will have blockchain identities. It will help improve systems by bringing about many identity solutions. With today's identity systems being dysfunctional and insecure, blockchain technology will act as a single source of verification for both individuals and assets. This will help:

- Increase privacy and efficiency.
- Decentralize and verify the data collected.
- Store information in a single ledger.
- Reduce the risk of security breaches.
- Create a new identity platform that is distributed and not controlled by a central authority to increase transparency.

Some use cases of blockchain in the identity domain are employment records, tax identification records, government records, certificates and healthcare records, and reputation scores.

5. Reduction in Cybercrime

Since its inception in the '90s, the internet has changed a lot. In an era where we only had Web 1, the next iterations- Web 2 and Web 3 built on blockchain have taken on the world. A 2021 study indicates that an average internet user creates close to 100 passwords to access a multiplicity of services inducing more chances for fraudsters to steal them for malicious purposes. Users have lost tonnes of data leading to a 1% reduction in GDP.

Recently, the former Twitter CEO Jack Dorsey announced the new Web5 project built on the Bitcoin Blockchain unit (The Block Head) - an extra decentralized combination of Web 2 and Web 3- that will allow users to 'own their identity' on the Internet and 'control their data'. The purpose would be to create a seamless user experience in which one can shift from one application to another without creating new accounts or logging in or sharing data with third parties and service providers. If Internet 5.0 is adopted throughout the globe, the issue of cybercrime can drastically go down.

6. Considerable improvements in The Global Standard of Living

Today, poverty and income discrepancy are the hardest problems that are tackled by humanity. More than 10% of the total world population, which amounts to more than 750 million people, are living their lives on less than \$2 per day. More than 2 billion people do not have access to financial services and are considered to be unbanked!

Blockchain has the potential to reduce the poverty gap considerably. This is achieved in six ways, which are:

a) **Reducing Corruption** – Blockchain creates transparency of official records. Details of all assets, including land, will be recorded on an immutable (tamper-proof), transparent, and secure digital ledger which is completely open for the public to see. The uncertainty associated with any asset reduces its traceability potential and asset price. Creating a distributed, asset tracking system will help in increasing global wealth. Sorting out this problem will have major positive financial implications on the global economy.

b) **Financial inclusiveness** – This is an obvious benefit of cryptocurrencies like Bitcoin. Cryptocurrencies and blockchain help the unbanked population to get banked, and thus, get paid. By using blockchain technology, there is no need to rely on a centralized institution such as a bank or government, to provide permission for opening a bank account. It will provide easy access to a crypto exchange where people can buy and sell cryptocurrencies using their smartphones i.e. microtransactions. With a lot of merchants around the world already accepting cryptocurrencies, cryptocurrencies will become a de facto standard by 2030 like the U.S. Dollar, which is widely accepted today.

c) **Tokenization Of Value-Generating Assets** – Tokenization refers to proving the ownership of real assets by using digital tokens. Blockchain aids in the tokenization of large-scale assets. This means that even a farmer from a rural area can become a fractional owner of a revenue-generating asset such as a hotel or a gold mine. This will help open up a potential investor base to a broader market, reduce the trading time, and increase liquidity compared to traditional securities.

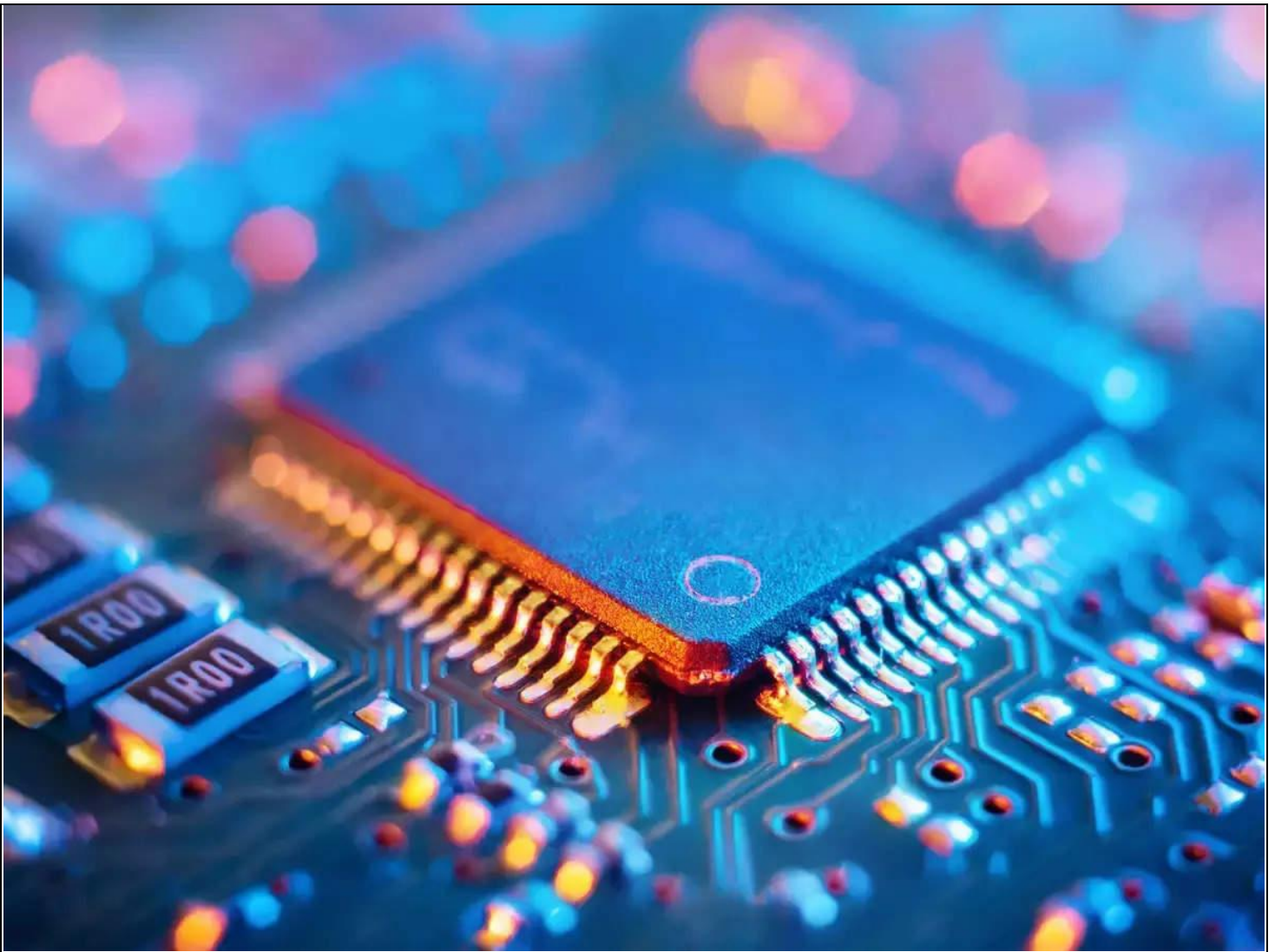
CONCLUSION

As we saw above blockchain has the potential to address global economic problems through its decentralized approach given that we overcome the fundamental challenges associated with it. Blockchain is still in its infancy and it's not the only solution to address inherent issues. It is compulsory to know whether this technology fits the requirements before adopting it into a business solution. The stakeholders and research agencies have to come up with a lot of information to improvise this promising yet complex segment. If start-ups and agencies are willing to adopt the niche features of Blockchain with IoT, big data analytics, AI, 5G, and economics, they can pave a way for efficient solution development strategies.

There is no doubt about the potential of blockchain to revolutionize the future and in fact, COVID has made it even more essential for current businesses to adopt blockchain economics for transforming the world into a completely digital era. According to a Bloomberg Intelligence report, this virtual world has promising economic possibilities and could become an \$800 billion industry by the middle of this decade and a \$2.5 trillion one by 2030. The need of the hour is to keep digging for intensive research and identifying emerging technologies within the blockchain that could change the world into a more sustainable one.

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INDIA'S DEVELOPMENT IN THE SEMICONDUCTORS ECOSYSTEM

By - HEENA

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During the COVID-19 epidemic, many countries including India have recognized the importance of global supply chains and risk due to the absence of any concrete action to segregate procurement partners. This is especially true for semiconductors.

INTRODUCTION

Semiconductors are essential for electrical equipment in many fields including health care and medical equipment, communications, computers, defence, transportation, clean energy, and important emerging technologies such as artificial intelligence and quantum computing. The

US continues to be a leader, with about 50 percent of the global market share, worth \$ 208 billion by 2020. Semiconductors are one of the five leading U.S. exports, accounting for more than 80 percent of U.S. sales. to overseas customers. The American industry is investing about one-fifth of its revenue in research and development (\$ 44 billion by 2020), ranked second in the top behind the pharmaceutical industry.

China, another emerging player in the semiconductor industry, is developing rapidly. In 2015, the country had a small share of 3.8 percent of global chip sales, reaching \$ 13 billion, but by 2020 it had improved its score, marking an annual growth rate of 30.6 percent, taking part of the 9 percent market and \$ 40 billion in annual sales. According to the Semiconductor Industry Association, China has surpassed Taiwan for two consecutive years, and is behind Europe and Japan alone, each with a market share of 10 percent by 2020. In the industry, annual revenue could reach \$ 116 billion by 2024, reaching a market share of close to 18 percent, which puts it behind the US and South Korea alone in terms of global market share. ([The Diplomat, 2022](#))

INDIA'S DREAM - GLOBAL SEMICONDUCTOR HUB

In December 2021, the Indian government approved Rs. 76,000 crore (\$ 10 billion) as an integrated Production Promotion Program or PLI to attract semiconductors and exhibitors. India seeks to gain confidence in semiconductor development. In addition, it aims to be a global semiconductor hub. India announced the establishment of a special and independent “India Semiconductor Mission (ISM)” to develop a sustainable semiconductor and reflective ecosystem.

Vedanta Group announced its plans to invest \$ 15 billion in the production of semiconductors in India within five to ten years. Tata Group is reportedly in talks with several international companies including TSMC of Taiwan and UMC chip manufacturing in India. Tata Group reportedly wants to build a semiconductor assembly and testing centre (OSAT), for \$ 300 million. They identified Tamil Nadu, Karnataka, and Telangana as potential locations for the centre. The plant reportedly "will assemble and test semiconductor chips after obtaining high-quality silicon wafers from semiconductor foundries such as TSMC in Taiwan, Fitch Solutions." The government looks happy with Tata's proposal. ([The Hindu, 2022](#))

However, the Russia-Ukraine war created a shortage of raw materials such as neon gas and palladium, which are used in the production of semiconductors. Therefore, this may delay India's semiconductor dream.

THE GREATER OPPORTUNITY DURING COVID - ERA

Due to the disruption of supply chains during the violence and the decline in production due to concerns about the safety of COVID, there is now a shortage of semiconductors worldwide. Therefore, India has a wide range of opportunities to use this opportunity and become a global hub for semiconductors. Several companies including TATA and Vedanta are investing in the production of semiconductors in India. To date, there are \$ 20.5 billion in proposals from five semiconductor setup companies and production units. Semiconductor production involves several steps such as - Research and development, design, and integration, testing, marking, packaging (ATMP), etc. India plans to take up a large portion of the ATMP component as it captures approximately 10% of the semiconductor business revenue.

India has a huge advantage in having low-skilled workers. The state leaders are planning to establish 20 semiconductor

design companies to secure a share in the semiconductor design business. The design holds 30 percent of the semiconductor business. Also, the design business is environmentally friendly. ([Business Standard, 2022](#))

MORE NEEDS TO BE DONE

India has a low presence in the semiconductor region, intended for strategic applications only. The current centres of India are Semi-Conductor Laboratory (SCL) Mohali; Gallium Arsenide Enabling Technology Centre (GAETEC), Hyderabad; and the Society for Integrated Circuit Technology and Applied Research (SICTAR), Bengaluru. But that could change if New Delhi took the initiative to bring in more talent and investment. Prime Minister Narendra Modi's speech at the Indian Mobile Congress highlighted India's aspirations, the prime minister said "From 5G technology to artificial intelligence, virtual reality, cloud, internet of things and robots, the world is looking to India with the hope of providing approved technology with affordable and sustainable solutions." The government has begun recognizing the important role that semiconductors and demonstrations will play in the foundation of modern electronics that drive the next

phase of digital transformation under Industrial 4.0.

Semiconductors and signal productions are both high investment and technology and India demands both financial support and technical cooperation. Meanwhile, in another important move, the government is reportedly in talks with Taiwan to establish a semiconductor manufacturing facility in India. The Indian government has already selected a few sites for this purpose. If negotiations are successful, one of Taiwan's largest semiconductor manufacturers - Taiwan Semiconductor Manufacturing Company (TSMC) or United Microelectronics Corporation (UMC) - may launch. There is also a domestic interest in the semiconductor industry.

RUSSIA – UKRAINE WAR IMPACT

As India initiates local production of semiconductors to reduce its dependence on other countries but if the war between Russia and Ukraine continues in the long run, could jeopardize India's dreams of high productivity in semiconductors and becoming the global domain. With the tension of the current state of affairs from Asia to Europe and from semiconductor production to supply raw materials, Indian players need to re-evaluate power growth and investment decisions, experts say.

Other export materials come from Russia and Ukraine, such as neon gas, Chemical C4F6, and metals like palladium, nickel, platinum, rhodium, and titanium are very essential for the production of semiconductors.

According to experts, black swan events, like the ongoing war, which may cause significant difficulties in supply chains worldwide can also affect chip volume and spike chip prices. PLI and programs to promote the production of electronic components and semiconductors have caused the replacement of production from other countries to India. In such a case, the lack of material things could ruin a person's dream. Global chip shortages will occur in the latter part of 2022, and probably even in 2023, according to a recent report by the US Department of Commerce on the semiconductor supply chain. Manufacturers have already seen their share of semiconductors go down and there is a chip shortage worldwide. ([Business Standard, 2022](#))

CONCLUSION:

India seems to be making great strides in expanding its presence in the semiconductor manufacturing sector. Whether these many government-sponsored programs will overcome

common administrative barriers, red tape, and careless tax regulation remains to be seen. India may soon become a global semiconductor centre, as India is more receptive to mastery makers than ever before. Others also entered the Indian market like U.S. chipmaker, Intel, who has also expressed interest in establishing a semiconductor manufacturing facility in India, which the Indian MeitY minister immediately accepted. Environmental impact is something India should always keep in mind as it promotes the

semiconductor ecosystem. The dark fact is also in the head of planners that the Ukrainian crisis could delay India's development in the semiconductor. But the positive prediction that India's semiconductor market is projected to hit \$ 63 billion by 2026 compared to \$ 15 billion by 2020 is something to get motivation from. India Semiconductor Mission (ISM) will develop a sustainable semiconductor and reflect the ecosystem. ([Business Standard, 2022](#))

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ECONOMICS OF PARALLEL EDUCATION

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Novel education structures in the form of tuitions and coaching centers have in the recent decades established themselves parallel to the traditional structure of schools and colleges, especially in developing countries. About 40% of school going students were found to be dependent on private tuitions in 2021, according to ASER report. It accounts for more than 13% of the overall education cost, however underreported that figure might be. The general opinion cites a complementary aid which tuition provides when schools are

insufficient for doubts, discussion, explanations, etc., over years, the complementarity hypothesis has subsided and has taken various tiger forms which require an economic explanation.

ASYMMETRIC INFORMATION AND RISK

Education is the classic case of asymmetric information, especially in the case of developing nations where the form and content of education received by parents

contrasts with what their child needs to get, of which they are, but imperfectly informed. Hence Their criteria of judgment is the marks that the student received, with marks being a mental substitution for learning. Hence return from tuition in form of marks is the first reason for parents making their students join them, factored in to some extent by complementarity logic.

However, the main factor is risk. Education has an associated risk of entrenched liability, since even a year wasted for a young child might alter his attitude towards studies forever, hence parents try whatever they can to minimize it, with one alternative being to take advantage of all available options. This classic case of FOMO economics, where you don't want to risk leaving any alternative for the fear of regretting it afterwards. Hence tuitions act as a form of mental insurance against this risk. There are other dimensions of the mental risks involved for students. Education is a social phenomenon, where your marks, performance, etc. does not simply stay in your classroom, but forms the talk of your classmates, parents, relatives, neighbors, friends, etc. Marks are only a part in your hands, but there's still a social obligation to show up the effort that you are putting in. And tuition is an excellent way to do so. Because neither your parents know what you must study and

how (and that's true for many of the developing economies), they take time spent in tuitions for time spent in study and learning, and this creates an image of effort, which serves the student well as this provides a mechanism to escape from the daily questioning of effort as well as the social psychology that comes with it. Just remember when you have to sit in front of books with a comic in between!

ECONOMICS OF THE STRUCTURE OF EDUCATION

To the next dimension, the structure of education in many countries has been based on informational knowledge rather than an understanding and application of concepts. Information is asked in exams, and even analytical questions can be answered to full via using the texts in books. Over time parents have acquired an intuitive understanding of this process, which says that the more is the repetition and revision of curriculum, the more is the probability that one secures higher grades, because the fundamental of education is based on a rote memorisation process in such societies. And tuitions have structured their organizational structure to meet this requirement. Just a cursory look at the repetitive notes that these coaching centers provide will suffice. A subject like mathematics is often distilled

to a thousand question banks, and tuitions often boast up guarantees on that. The principle is then that mug up everything in the list, and whatever comes in exams will have most of it, rather than discuss the concepts and use them to solve any kind of question in exam.

This fact explains to some extent why hardly graduate tuition teachers are trusted over qualified teachers in schools, because the tuition teachers get the repetitive rote model right which the parents want.

BEHAVIORAL ECONOMICS OF IT

As capitalism has moved from a focus on physical to human capital, with process being even more rapid in countries like India growing on a booming service and knowledge economy, not just good marks are important but the race to get to the top begins. And parents suffer the classic conjunction bias. They see that the top three in class are going to tuitions, which they take in for tuitions being causal to their performance, and hence they infer that their kid needs too to go to the same tuitions. They heavily probabilistically underweight other phenomena, and ignore the fact that the three form just a small segment of the whole population going to tuitions, according to which tuitions are at best

insignificant causal factors. However, repeated availability of the above evidence reinforces the representativeness heuristic, and parents, deciding on their recent inferences and observations (however lopsided they may be) take to tuitions.

The big question at micro level analysis lies, that since this is a repeated game situation, why don't parents remove tuitions once they don't see the results coming? The risk factors mentioned above are one, but another plausible reason might be a shifting of blame. The student might himself be blamed for not paying adequate interest and attention towards studies *ex post*, even though he seemed like studying throughout the duration. The step often considered is to change tuitions, and if the phenomenon re-occurs, then the belief that the student has some sort of academic problem goes on to become so entrenched that tuitions become a permanence!!! If he is getting such marks even with tuition, then he is sure to fail without them, is the thinking.

CRITICAL RESOURCE MANAGEMENT BY TUITION PROVIDERS

On the other hand, tuitions are working in a very competitive environment, which makes a part of asymmetry easy since they have to provide quality in order to keep

association. However, quality is not easy to determine in education. The tuition providers resort to critical resource theory whereby they try to have a critical resource in the form of a famous teacher or famous notes, and try to substitute that single resource for the image of the institute. The phenomenon is quite happening when students join tuitions in the name of some famous teacher, only to be disappointed by the remaining faculty. Even more so, education is sliced and packaged and sold by these parallel centers to make them more attractive.

It is interesting to see how the social perception of tuitions has changed over the years. My parents often talk about how going to tuitions was looked down upon in their times as something that only the dumbheads go to. This perception changed rapidly, with tuitions not only becoming the

norm, but also becoming the branding of a child associated with it.

CONCLUSION

Education builds an understanding society that values innovation and ideas and supplements the progress of a nation. The economics of parallel education, as it becomes a financial reality, need to be understood in detail before any policy is formulated on education. The rise of parallel structures in education have questioned the notion of education as a public good. As that happens the divide in the society will grow out, even when the mass of the so educated people that we have is completely devoid of innovation and ideas, being rooted in the tradition of repetition fostered by these parallel structures. What is the form of regulation that we need? This question first requires an understanding of those that we need to regulate.



VOICE OVER DEAFENING SILENCE

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Protests..... thousands of people shouting slogans, hundreds of boards written in black & red, burning vehicles & effigies, tear gas, water cannons, blockades, wounded people, police loaded with riot gears; are the images you might have remembered upon hearing the word 'PROTEST'. The upsetting part is that you aren't alone in imagining so. Majority of people around the world carry the same perception of protests. No one is to be blamed here rather our society itself. Someone once said, "If you tell a big enough lie and tell it frequently enough, it will be believed". Our society has for decades now, shaped our beliefs so by

imprinting in our mind that protests are a courageous & time demanding act by the minority group to express their discontent against a popular policy. It has accustomed us to see this act in a negative light and made us be fearful of authorities if and when we do take part in them.

Protests in reality are just a public display of discontent or disapproval of an act. These neither have to be accompanied by masses nor be considered a courageous act while being fearful of authorities. The notion of protests being a disapproval against a popular policy is equally false. Especially in India, with the current state

of our infrastructure and systems, it is next to impossible to know whether a policy really does enjoy popular support. The absence of any public display of disapproval by the masses regarding the proposed action can't be mistaken for presence of popular support. All the laws made today are done only through the involvement of a small number of people, generally including just certain industry leaders, few activists and the so called 'elected representatives'.

Depending upon a single elected representative to accurately represent the views of lakhs of people of their constituency is an equally absurd concept. Imagine choosing 10 people at random and enquiring them about their beliefs & ideologies. The probability of all 10 or even the majority of them having the exact same beliefs in every aspect would be greater than 1 in a million. Calculating the same for a whole country as diverse as India, would approximately tend to zero. And so expecting that one assembly of elected representatives to adequately and efficiently reflect the popular opinion in the laws isn't practical. Taking into account this precise issue with democracy, our forefathers had in the constitution assigned a special value to right to freedom of expression. However hard to believe, they had envisioned protests to be

just one of the modes of expression and participation of people in democracy. Over the years, protests have remained the only effective mode of expression, but through systematic degradation they have lost their integral value and respect in the society. For you to wonder if this is how we will always have to be, is completely justified. And the answer is no.

The advancement of technology over the decades provides us with a new hope. It provides us with the opportunity to venture to paths that haven't been traveled upon in centuries. It gives us the chance to practice democracy exactly how it was envisioned, 'power to the people'. The one way that not only promises to decrease the number of protests in the country but also provides a new platform for people to feel that their voices have actually been heard is to only pass bills that resonate with the popular opinion. Asking all the citizens of the nation to participate in the process of formation and documentation of a bill is impractical but asking them to vote upon the same isn't.

Today's technology provides us with the opportunity to actually organize such an infrastructure where only 1000 people vote on behalf of 1.2 billion is no more a compulsion. Where a physical election or referendum doesn't have to be called every

time when a bill has to be voted upon rather, people can do so from the comfort of their houses on their devices. Development of such a simple infrastructure would give people the power to decide the future of their country, of their children and of their loved ones. This would eliminate one of the key reasons of why protests happen, which is the feeling of being unheard.

Implementation of such an expansive project, however simple in idea isn't an overnight task. A few key aspects will need to be taken care before this can be effectively & efficiently implemented, which are but not limited to:

- It is absolutely imperative for this service to reach each and every corner of the society. Each eligible person should get the chance and choice to be a part of the process. This is specially directed towards the sections of the society who might lack access to such technology. Giving them access to this platform to express themselves should be of foremost priority.
- The security of such an online platform should be of an equal concern. Right to privacy should always be ensured on this platform which would potentially have the data of 1.2 billion people; data which should in no case be allowed to be

exploited by any group, industry or political party for any reason.

- Before any upcoming vote on any bill, adequate factual & unbiased information should be provided to everyone, so making an informed decision is an actual possibility. In addition, enough time should be given for a voting to be completed, giving people the time, they need to form their opinions and hear the opinions of other experts.

Petting fire was a crazy idea, playing with lightning was a crazy idea, daring to fly was a crazy idea and letting 1.2 billion people regularly participate in democracy instead of just once in 5 years is a crazy idea, but these crazy ideas are the ones that have shaped our society and will continue to do so for future generations to come. Protests have and will always remain an integral part of any successful society, but a genuine attempt to actually hear out what people have to say, to wander where civilizations haven't gone in centuries might actually go a long way in building a society which we won't feel ashamed to pass down to our children.



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