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PERSPECTIVES ON

The Future of Biopharma Supply Chains

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This article presents takeaways from a session at GIC Insights LIVE 2020, where panellists Marc Casper, Chairman, President & CEO of Thermo Fisher Scientific, Chris Chen, CEO of WuXi Biologics, and Erez Israeli, CEO of Dr. Reddy's, shared their views on the outlook for supply chain onshoring, drug costs and pricing dynamics, and the potential winners and losers in the post-pandemic world.

***GIC Insights** is our annual flagship event that gathers a select group of prominent business leaders to deliberate over long-term issues pertinent to the international business and investment community.*

The COVID-19 pandemic has exposed vulnerabilities in the global biopharmaceutical supply chain, and raised renewed concerns over the offshoring of facilities to Asia as well as the heavy reliance on large producer markets like China and India for critical medical supplies.

When the virus began to spread in early 2020 and countries started closing their borders, this brought about significant disruptions in the manufacturing and distribution of drugs, diagnostics, devices and personal protection equipment. Acute shortages in various critical medical products and hospital supplies were experienced.

DISRUPTIONS FROM COVID-19

Panellists shared their experiences navigating the logistical disruptions to their operations during the weeks of global lockdowns. The combination of local restrictions on the movement of labour and goods, and global air travel grinding to a halt, posed challenges that were unprecedented and unanticipated by regular business continuity plans.

Supply chains have moved offshore over time, and in many instances, span multiple countries. For example, India manufactures and supplies 40% of generic drugs to the US, and China is a major supplier of pharmaceutical raw materials to India. Many large manufacturers with broad product portfolios have manufacturing plants spread across different states and countries.

Companies that manufacture products in single locations for global markets were the most acutely impacted during the early onset of the pandemic. Many of these companies had to turn to governments for help in getting raw materials and finished goods across borders.

REVIEW OF SUPPLY CHAIN STRATEGY AND MANAGEMENT

There have been unprecedented levels of collaboration amongst industry players and regulators. The pandemic, while global in nature, has affected countries unevenly, and also exposed the degree of interconnectedness and interdependence of biopharma supply chains globally. Private and public stakeholders around the world have had to collaborate to overcome supply chain disruptions.

Nonetheless, policymakers will be compelled to review supply chain strategy and management for assurance of supply and mitigation of risks.

A heavily discussed area in the US has been the manufacturing of critical APIs (active pharmaceutical ingredients) and medical supplies that are often concentrated outside of the US, in countries like India and China. Governments, hospitals and private retailers are now under increased pressure to scrutinise the footprint of their medical supplies; governments will likely seek to increase the security of supplies through a certain degree of onshoring and diversification.

> **"EVENTUALLY, THERE MAY BE A SUPPLY CHAIN IN THE US, ONE IN EUROPE, ONE IN CHINA, AND AN ADDITIONAL ONE IN THE REST OF THE WORLD. POST-COVID, IT WILL BE A VERY DIFFERENT BUSINESS ENVIRONMENT.**
>
> ***Chris Chen***
> ***WuXi Biologics***

That said, such decisions are not straightforward. The supply chain has evolved over decades into an interconnected network of suppliers around the world, in order to optimise cost and efficiency. The economic burden of widespread onshoring and unwinding of the global supply chain remains an issue that has yet to be addressed.

RESHORING IS A COSTLY UNDERTAKING

Reshoring is a massive and costly undertaking that involves considerable time and resources. While the strategic rationale of national security is clear, the economic rationale remains to be seen.

The offshoring of facilities from the US to China and India over time had been driven by the search for cost and labour efficiencies alongside tough environmental laws in the US. Despite President Trump's Executive Order to "buy America" for essential products, it may be neither economical nor easy to replicate the infrastructure and capacity found in China and India, in the US, on a large scale. The US government is also not the biggest buyer of generic medicines in the US; most of the supply goes to commercial mega-buyers in the channel like Red Oak Sourcing and Walgreens Boots Alliance.

Whether widespread reshoring can be achieved without heavy government subsidies is also unclear. Companies will learn from the COVID-19 experience, streamline operations and strengthen end-to-end supply chain processes, to increase their resilience should another pandemic hit. But ultimately, in the corporate world, changes to supply chain strategy will still have to be driven by cost and capital efficiencies.

Strategic shifts in the supply chain may benefit countries with export-oriented economies and policies like Switzerland and Singapore, rather than the US.

ON THE COVID-19 VACCINE

It is unlikely that one vaccine alone will end the spread of the virus. Instead, it will likely be a multi-year, multi-solution approach, comprising a combination of vaccines, boosters and other pharmaceuticals, as well as methodical implementation to make the vaccine accessible globally to frontliners and eventually, the broader population.

The question of who will get the vaccine first has been greatly debated, with concerns raised about vaccine nationalism by rich nations, at the expense of poorer ones. International agencies like the World Health Organization, and well-endowed institutions like the Gates Foundation, may have to step in.

> "IT IS A MULTI-YEAR, COMPLEX TYPE OF DEALING TO MANAGE THIS DISEASE. IT WILL BE A COMBINATION OF VACCINES, PHARMACEUTICALS, TREATMENT AND DIAGNOSTICS IN ORDER TO DEAL WITH DIFFERENT POPULATIONS IN DIFFERENT PLACES IN THE WORLD.
>
> ***Erez Israeli***
> ***CEO, Dr. Reddy's***

TOWARDS A MORE RESILIENT FUTURE

The crisis has shaped many lessons about the impact of globalisation on pharmaceutical manufacturing and the extent of interdependencies. The astounding level of collaboration among governments and other private and public stakeholders, coupled with the use of digital tools and artificial intelligence for faster, better solutioning, also bode well for the future. The collaboration among the global scientific community to develop a COVID-19 vaccine at "pandemic speed" has also been unprecedented. This gives hope that a COVID-19 solution will emerge sooner rather than later, and best practices learnt will put the world in a stronger position to navigate the next crisis.

> **THERE WILL BE VERY SIGNIFICANT INVESTMENTS IN BASIC LIFE SCIENCES RESEARCH AND THE EXPANSION OF INFECTIOUS DISEASE CAPABILITIES, IN TERMS OF HOW TO RESPOND, FROM DIAGNOSTICS TO VACCINES. GOING FORWARD, THIS WILL BE APPLIED TO THE MANY CHALLENGES THAT SOCIETY FACES.**
>
> ***Marc Casper***
> ***Chairman, President & CEO, Thermo Fisher Scientific***

Looking ahead, the pandemic has generated greater interest from both the scientific community and investors in traditionally under-invested areas like vaccines and infectious diseases. There is optimism that the accelerated development and testing of new drug modalities today will continue to drive further breakthroughs, to strengthen global pandemic readiness post-COVID.