Comparing Emergency COVID-19 Vaccine Development and Regulation:

Evidence from China, United States, Russia, and Cuba

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Extended abstract

Why and how do countries become major inventors and suppliers of pharmaceutical products in the middle of a global public health emergency? Conventional wisdom on medical and pharmaceutical advancement draws on two largely separate bodies of literature: a Global North–focused tradition emphasizing technological upgrading and regulatory harmonization, and a Global South–oriented perspective highlighting flexibility in both domains--frameworks both derived from evidence gathered in non-crisis conditions.

Drawing on fieldwork and documentary evidence from COVID-19 vaccine campaigns across multiple countries, this article challenges and extends these views by showing how stakeholders operating under emergency conditions leverage material and institutional constraints (and opportunities) to galvanize four distinct strategic pathways in relation to technological upgrading and regulatory harmonization.

Actors at the extremes of the global hierarchy--those either most advantaged or least resourceful—-tend to make peace with the status quo by aligning upgrading with harmonization (or, non-upgrading with non-harmonization). This strategy entails serious innovation grounded in global regulatory legitimacy and quality assurance (e.g., the United States and Cuba). By contrast, actors occupying intermediate positions, namely those with potentials and yet to reshape the global pharmaceutical landscape, can do so by trading upgrading against harmonization (and vice versa) (e.g., China and Russia)--approaches that resemble arbitrage strategies in financial markets, exploiting asymmetries between the objective conditions and subjective valuations of assets to advance their goals.

The article proposes a pragmatic framework that reconciles realist and constructivist accounts of pharmaceutical advancement and drug evaluation, bridging this literature with a growing body of scholarship on social valuation; moves beyond the Global South-North dichotomy by examining a few (post-)communist cases that are politically non-Western yet economically ambiguous; and finally, contributes to studies of scientific knowledge production and innovation under emergency conditions, with implications for global health access and pandemic preparedness.