

## Annex-A G20 Generic Framework for Mapping GVCs

### Background

GVCs consist of intricate production networks that are fragmented across multiple firms and countries for cost optimization and for achieving production efficiency. However, these networks may contain hidden vulnerabilities that are exposed during disruptive events. As the global economy continues to be more connected and GVCs adopt new technologies, the frequency and magnitude of these risks is likely to increase. Therefore, it is crucial to identify the hidden vulnerabilities within GVCs and develop resilience strategies to mitigate the impact of external shocks.

### Generic Framework for GVC Resilience

As countries take steps to mitigate risks to GVCs, including regional value chains, policy actions can benefit from a well-defined, voluntary and non-binding generic mapping framework based on the following building blocks:

- **Data:** GVC resilience framework should be based on collecting timely high quality sector level data and voluntarily provided firm level data.
- **Analysis:** The complexity of GVCs necessitates the use of models and indicators, which can provide key insights from such GVC data.
- **Representation:** GVC resilience framework should use advanced technological tools that present underlying patterns from data analysis in a user-friendly manner.

By incorporating these building blocks, the framework can help in the identification of the sectors and products critical to GVC resilience.

Under such a generic framework, it is important to identify key dimensions to help evaluate the resilience of GVCs both at the sectoral and product levels. The following non-exhaustive set of indicators can help with such evaluation, including by domestic authorities:

- **Concentration of suppliers and markets:** Heavy reliance on a small group of players or concentration in the buyers/seller market can significantly impact the resilience of a GVC.
- **Volatility of trade volume and value:** GVCs that are subjected to a high degree of uncertainty in terms of supply and demand experience outsized volatility in terms of both volumes and value of trade.

- **Upstreaming of an industry or product:** An industry or a product that is situated upstream of a GVC has the potential to disrupt the entire chain through spillover effects.
- **Downstreaming of an industry or product:** Industries or products that are dependent on multiple inputs through various stages are more susceptible to frequent disruptions.
- **Critical nature of industry and product:** Resilience and robustness in certain industries and products can be considered critical given their end use.
- **Product attributes:** Products with long lead times in the production process or with limited shelf life can be critical from a replacement/timing perspective.
- **Connectivity:** Logistics & communication infrastructure, customs efficiency and information technology networks are important elements for GVC resilience.

Consulting with stakeholders, including industry can provide additional insights and expertise that can further augment GVC mapping efforts.

### Guiding Principles for collaboration

G20 members can come together to address the need for keeping critical GVCs resilient and robust. A few high-level principles that can guide these efforts are:

- **Analysis:** Data-driven analysis is particularly relevant for GVCs, where the inherent complexity generates a large amount of data and warrants careful data analysis. Such an evidence-based analysis can help individual countries take the necessary steps to make GVCs resilient and robust.
- **Collaboration:** Members are encouraged to actively collaborate to share their experiences and national best practices in formulating resilience-building strategies.
- **Coordination:** Effective coordination among G20 members can contribute to safeguard trade resilience.
- **Preparedness:** Being well-prepared is crucial for reducing the severity and impact of any disruption. G20 members, in collaboration with their private sectors can

engage in proactive measures by regularly reviewing trade bottlenecks, vulnerabilities and other challenges to overcome these effectively. By taking pre-emptive action, countries can significantly minimize the adverse consequences of disruptions in GVCs and bolster overall resilience.

- **Inclusion and sustainability:** When collaborating on GVCs, G20 members will endeavour to promote inclusion and sustainability. GVCs operate as complex networks where the disruption of a single node can have far-reaching consequences. Many developing countries, especially LDCs, lag in their inclusion and level of participation in GVCs. Expanded participation and moving up the value chains can provide diversification to enhance GVC resilience as well as the opportunities for economic growth, job creation and poverty reduction. In this regard, G20 members welcome efforts to promote participation of those developing countries, especially LDCs, to move up in their GVCs. In addition, members recognize the importance of efforts to enhance and improve the sustainability of GVCs, taking into account the UN 2030 Agenda and its SDGs in their three dimensions.

These guiding principles can serve as a reference for countries to pursue relevant policy actions in coordination with their counterparts to enhance GVC resilience.

We also note the importance of working together to strengthen and improve the rules-based multilateral trading system to support members' efforts in this.