

The CIP index today consists of eight sub-indicators grouped along three dimensions of industrial competitiveness :

- ✓ The first dimension relates to a country's capacity to produce and export manufactures, and is captured by their Manufacturing Value Added per capita (MVApc) and their Manufactured Exports per capita (MXpc).
- ✓ The second dimension covers a country's levels of technological deepening and upgrading. To proxy for this complex dimension, two composite sub-indicators— industrialization intensity and export quality—have been constructed. The degree of industrialization intensity is computed as a linear aggregation of Medium- and High-tech Manufacturing Value Added share in total manufacturing value added (MHVAsh) and Manufacturing Value Added share in total GDP (MVAsh). Country export quality is obtained as a linear aggregation of Medium- and High-tech manufactured Exports share in total manufactured exports (MHXsh) and Manufactured Exports share in total exports (MXsh).
- ✓ Finally, the third dimension of competitiveness entails country impact on world manufacturing, both in terms of the value added share in World Manufacturing Value Added (ImWMVA) and in World Manufacturing Trade (ImWMT).
- ✓ The CIP index is a composite index obtained through a geometric aggregation of these eight sub-indicators to which equal weights have been assigned.

Construction of indicators

The revised version of the CIP index (CIP.8) presented in UNIDO's earlier CIP publication encompasses three dimensions captured by four individual and two composite indicators (8 indicators in total). The construction method and description of the eight indicators are as follows:

- ✓ Indicator 1: Manufacturing Value Added per capita (MVApc) MVApc captures the level of a country's industrialization and is expressed in per capita to adjust for country size. MVApc is the relative value of total net manufacturing output to population size. Unlike gross output, MVA is free of double counting as the cost of intermediate consumption is excluded. Furthermore, it is measured at basic prices to avoid tax distortions.
- ✓ Indicator 2: Manufactured Exports per capita (MXpc) MXpc captures a country's ability to produce goods competitively and to implicitly keep up with technological changes. Like MVApc, MXpc is expressed in per capita to adjust for country size. Data on manufactured exports indicate prima facie international efficiency and reveal structural trends. However, data on the MXpc of large economies are biased due to the existence of large internal demand and incentives towards domestic markets. Moreover, data on re-exports are not available at regular intervals for all countries.
- ✓ Indicator 3: Medium- and High-tech MVA share in total manufacturing value added (MHVAsh) MHVAsh captures the technological complexity of manufacturing. The higher the share of MHVA in MVA, the more technologically complex the industrial

structure of a given country and its overall industrial competitiveness is. Empirical analyses have shown that development generally entails a structural transition from resource-based and low-tech activities to medium and high-tech ones. The more complex the production structures of a given country become, the higher the opportunities for learning and technological innovation at the sectoral and intersectoral levels.

- ✓ Indicator 4: MVA share in total GDP (MVAsh) This indicator captures manufacturing weight within an economy. In other words, MVAsh specifies the contribution of the manufacturing sector to total production.
- ✓ Indicator 5: Medium- and High-tech manufactured Exports share in total manufactured exports (MHXsh) MHXsh captures the technological content and complexity of exports. The share of medium and high-tech products in total manufactured exports is considered jointly with the previous indicator, because MHXsh might under certain circumstances differ substantially from MVAsh. For example, large import-substituting developing countries are characterized by a relatively more complex MVA structure than manufactured exports structure.
- ✓ Indicator 6: Manufactured Exports share in total exports (MXsh) This indicator captures manufacturing weight in export activity.
- ✓ Indicator 7: Country's Impact on World Manufacturing Value Added (ImWMVA) This indicator is measured by a country's share in world manufacturing value added, which indicates the country's relative performance and impact on overall manufacturing.
- ✓ Indicator 8: Country's Impact on World Manufacturing Trade (ImWMT) ImWMT is measured by a country's share in world manufactured exports. It signifies a country's competitive status relative to other countries in international markets. That is, gains in world market share reflect more competitiveness, while losses denote deterioration.

In the construction of the final composite index, three fundamental dimensions are considered:

- ✓ First dimension: Capacity to produce and export manufactured goods Indicator 1: Manufacturing Value Added per capita (MVApc) Indicator 2: Manufactured Exports per capita (MXpc).
- ✓ Second dimension: Technological deepening and upgrading Composite indicator: Industrialization intensity, $INDint = [MHVAsh + MVAsh]/2$ Composite indicator: Manufactured Exports Quality, $MXQual = [MHXsh + MXsh]/2$.
- ✓ Third dimension: World impact Indicator 7: Country's Impact on World Manufacturing Value Added (ImWMVA) Indicator 8: Country's Impact on World Manufacturing Trade (ImWMT).

The composite index is then computed as the equal weighted geometric average of MVApc, MXpc, INDint, MXQual, ImWMVA and ImWMT.