

The background features a dynamic composition of orange and green splatters of various sizes, creating a sense of movement and energy. A large, semi-transparent white semi-circle is positioned on the right side, framing the text.

# Transformation of Auto Industry

Affordability, Quality and Integration

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**Economic Advisory Group**

**August 2021**





# Executive Summary

- The incentive structure currently in place does not reflect Pakistan’s latent comparative advantage
- Consequently, decades of protection has failed in making the auto sector internationally competitive
- A successful policy would have focused on incentivizing production activities where Pakistan could ultimately compete with rest of the world
  - For example, focusing on improving quality of auto parts and signing FTAs to help parts manufacturers integrate with global value chains
- **Proposal:** Move away from focusing on end-product towards facilitating sub-sectors where we can excel





Source: DAWN

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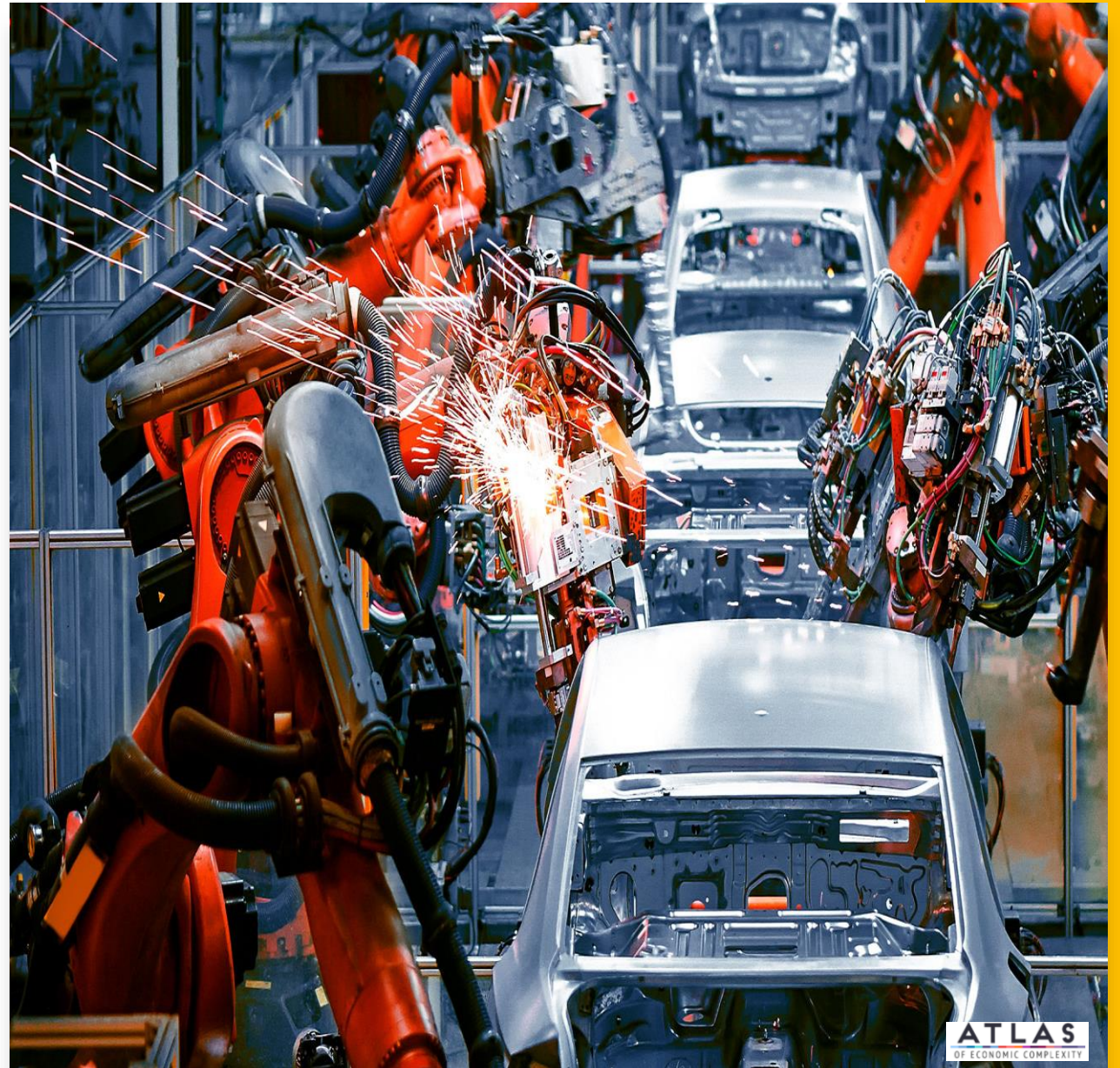
# Auto Industry Highlights

- Lack of capabilities to innovate in end-product and limited market size has kept production limited
  - 182,397 units in 2015 and 110,489 units in 2020
- Trade restrictions and limited market access means global manufacturers are not willing to work with domestic manufacturers
  - Foreign Direct Investment in the auto sector remains insignificant; \$64 million in 2015 and \$50 million in 2020
- Moreover, most domestic and foreign investment has been market-seeking in nature
  - Exports of the auto sector has been insignificant and stagnated: \$56.3 million in 2014 and \$50.5 million in 2020
- **EAG view is that** existing policies
  - a) fail both the (i) Mill test; (ii) Bastable test
  - b) And therefore even after over 3 decades of protection can't compete internationally and have resulted in a significant welfare loss for the society.



# Missing transformation

- Integration of local vendors with the auto assemblers and global value chains
- Adoption of modern technology prevalent in the industrialized countries
- Expansion of auto industry after realization of comparative advantage
- Regional exports of CBUs and auto parts
- Consumer satisfaction – quality, range of products, pricing



domestic origin.

The most dynamic parts of today's trade flows, however, are radically more complex and more entangled because of the changed organization of production. Specifically, twenty-first-century trade reflects the intertwining of:

- Trade in parts and components.
- International movement of production facilities, personnel, and know-how.
- Services necessary to coordinate the dispersed production, especially infrastructure services such as telecoms, Internet, express parcel delivery, air cargo, trade-related finance, customs clearance, trade finance, and so on.

The two key points here are that international commerce became more *multifaceted*—involving flows of goods, services, intellectual property, capital, and people—and that those flows became more *entangled* in the sense that they are generated by the same cause (production unbundling). These points have big ramifications for international trade policy that will be discussed at length in Chapters 8 and 9.

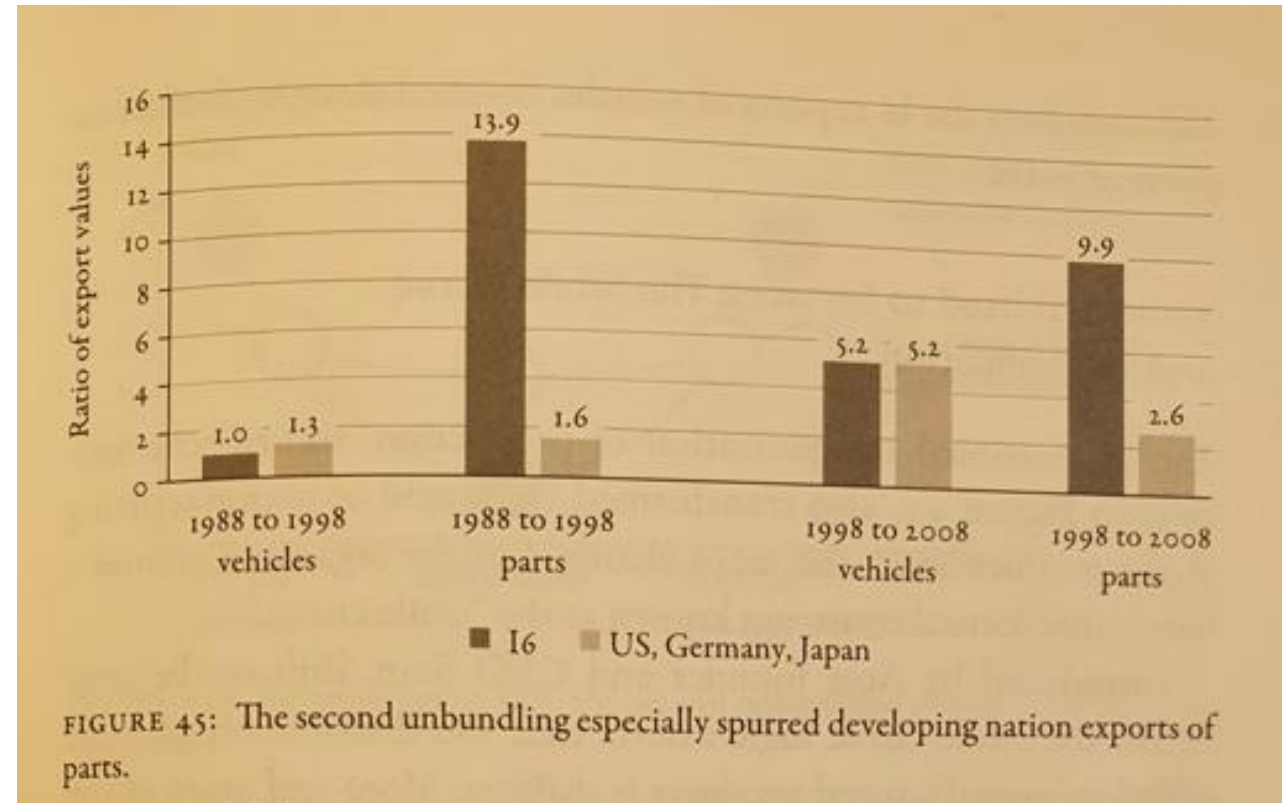
## The changing nature of trade

- Twentieth century trade: cars made in Germany competed with cars made in Japan
- The ICT revolution created an opening for countries to better realize their comparative advantage
- Increasingly, specialization in different stages of the supply chain has taken a center stage in countries' developmental process – **impossible to say where a car is manufactured**



# Auto sector in emerging economies

- The fast-growing developing economies saw a significantly greater increase in auto-parts exports than in vehicles
- This suggests that developing economies are more likely to have **comparative advantage in auto-parts** than in end-products
- The favorable trade regime has also encouraged global car manufacturers to integrate domestic manufacturers in their value chains



Source (book): *The Great Convergence* by Richard Baldwin

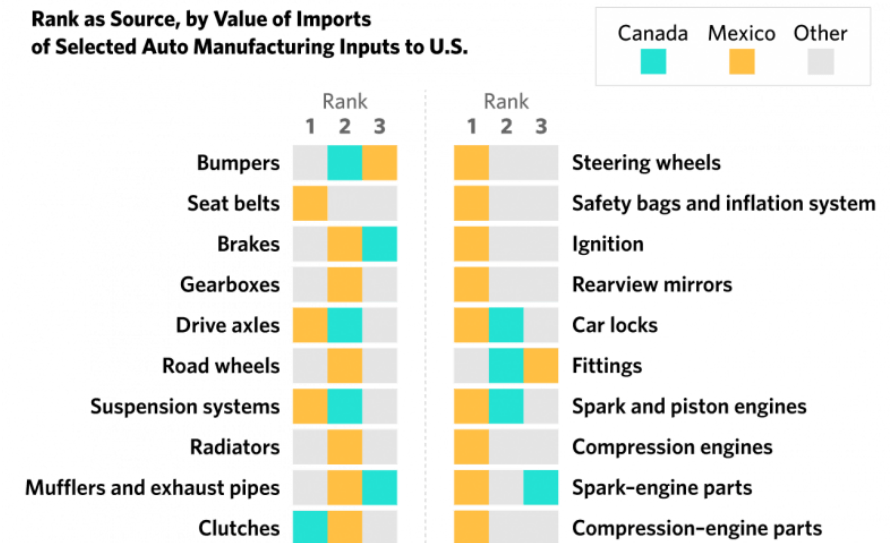
# A cursory look

- To compete globally, both developed and developing markets look to source various components of automobiles from overseas
- A cursory look shows that, given the right environment, Pakistan can specialize and compete in several of these

## Canada and Mexico Are Consistently Top Sources of U.S. Auto Manufacturing Inputs, 2017

U.S. automakers source many components from Canada and Mexico, and tariffs threaten to raise the price of these parts and finished vehicles.

Rank as Source, by Value of Imports of Selected Auto Manufacturing Inputs to U.S.



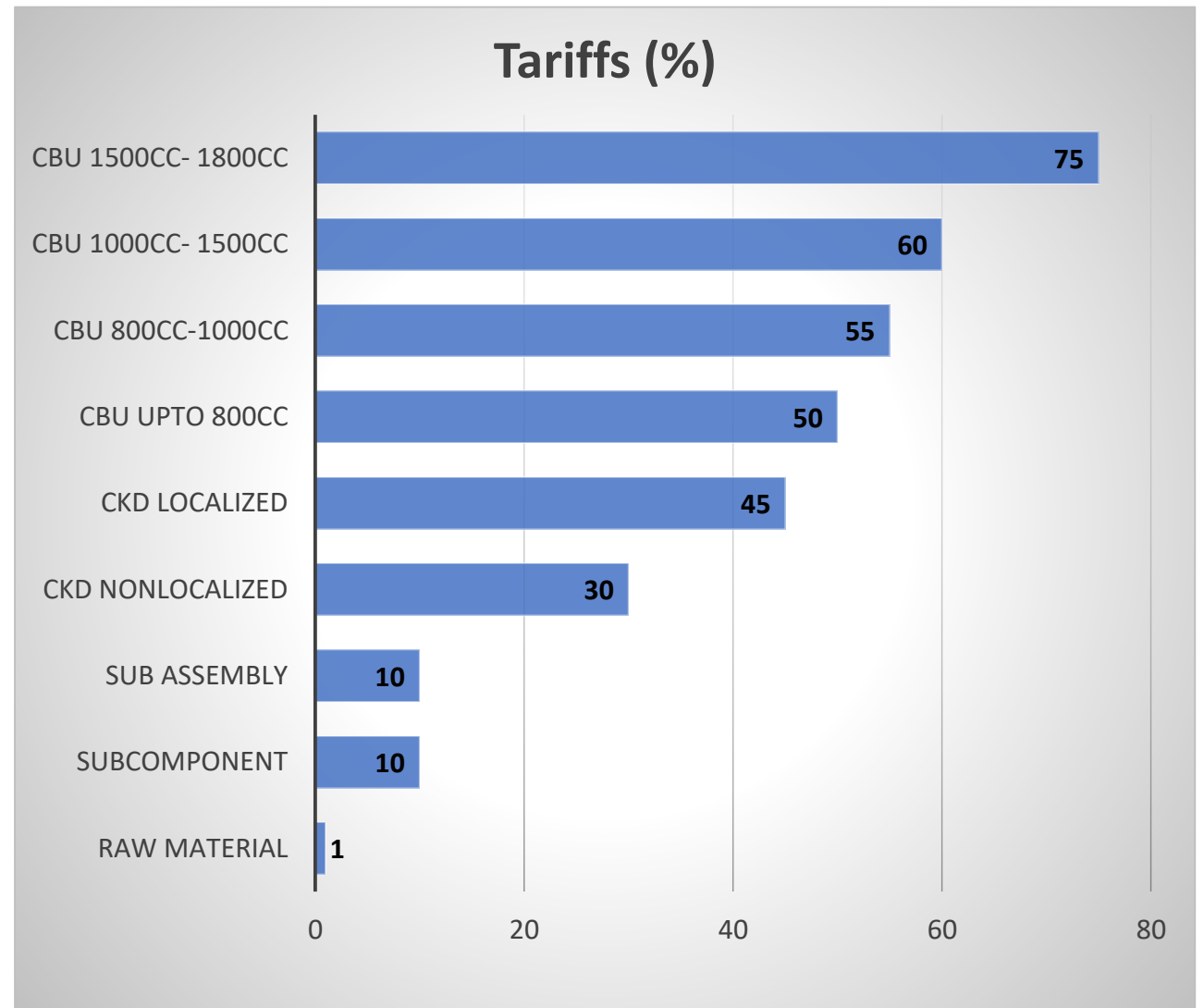
Source: Trade Map

Copyright Stratfor 2018



# Pakistan: The old ways

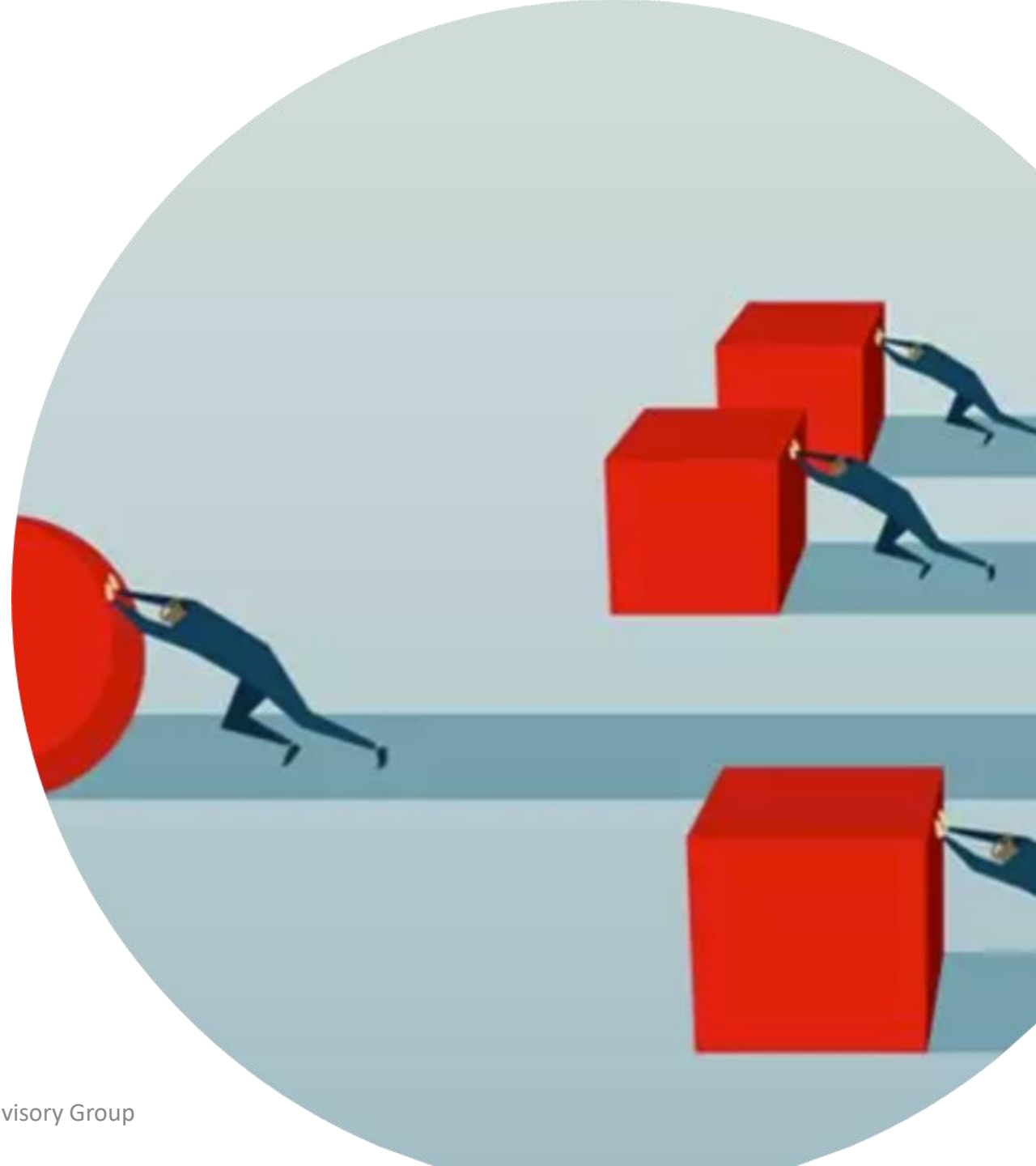
- The effective rate of protection enjoyed by the auto-sector is 143% (Varela et al, 2020)
- **Question:** But are we providing incentives for production activities where Pakistan can successfully specialise?
- In other words, does Pakistan **have** the necessary capabilities and required market size to become internationally competitive in the manufacturing of end-product?
- **EAG thinks**, if this was indeed the case, decades of protection would have succeeded in realising policymakers' dream



# Resource (mis)allocation

A significant fraction of country's resources are currently employed in production activities where Pakistan has an **inherent disadvantage**:

- **1.8 million people** currently employment through the supply chain could be reemployed across activities where Pakistan enjoys a latent comparative advantage
- The **purchasing power** of consumers, including **bank financing**, could be redirected towards creating demand for products where dynamic externalities are higher
- The incentive structure currently in place further tilts the **investment landscape** in favour of production activities where **competitive advantage is non-existent**



# What is needed for transformation?

- The flexibility for resources to move from one activity to another

*“in dealing with actual economies, the **barriers** (for resources to move) may be **more important than the frontier.**”*

– Franklin Fisher, MIT Prof

- Incentivizing activities where a country has **latent comparative advantage** i.e. has required capabilities and scale to emerge as the lowest cost **or high quality** producer





# Rethinking Policy

## Objective criteria: Mills and Bastable tests

- **Mills test:** A policy intervention is desirable if it enables firms to compete in the international market once the intervention is withdrawn
- **Bastable test:** And, it increases efficiency such that prices decrease enough to compensate the consumers for higher prices they had to pay in the short-to-medium run

## The **success** of any intervention **depends on:**

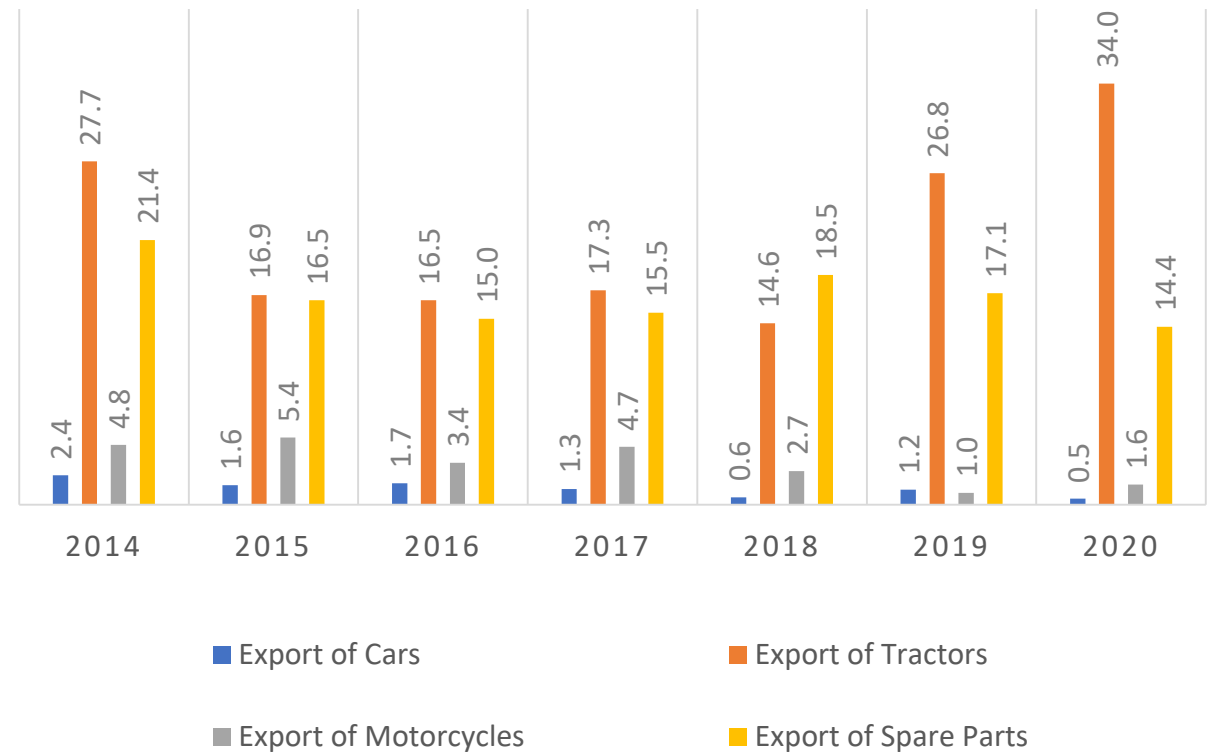
1. whether a country has required capabilities to build upon
2. the market size – access to global markets
3. how strong are spillover effects within targeted sectors and to the rest of economy



## Identifying Pak's latent comparative advantage

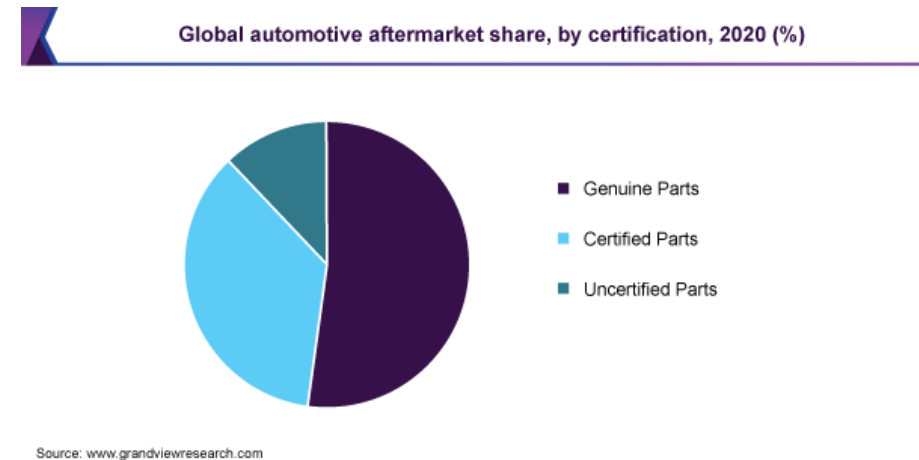
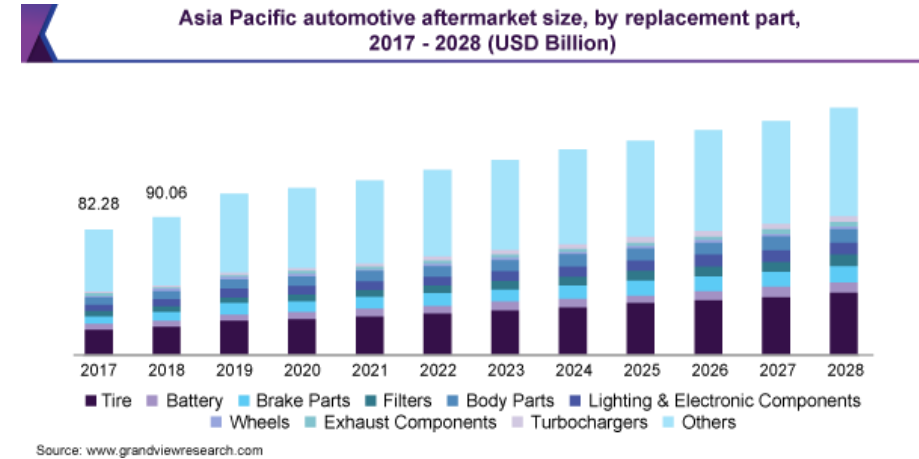
- Data shows we are likely to have comparative advantage in auto-parts and two/three wheel automobiles
- Policy framework needs to move away from specialising in end-product towards middle-part of the supply chain
- There is also significant primary/secondary market for these products in African and Asian markets

**FIGURE: AUTO SECTOR EXPORTS OF PAKISTAN (USD IN MILLIONS)**



# Policy recommendations

1. Integrate domestic parts manufacturers with global value chains:
  - Action 1:** Liberalise trade regime to give market access to international automobile manufacturers in exchange for integrating domestic parts manufacturers in their value chains
  - Action 2:** Identify and engage with key auto markets across the world with the aim to reduce frictions to cross border trade and provide certainty to international auto players vis-a-vis operating their supply chains from Pakistan
2. Secure access to African and Asian markets to expand exports to primary/secondary markets in these regions:
  - Action:** Actively seek FTAs with African Union, RCEP and Central Asian countries





# Policy recommendations

## 3. Invest in domestic capabilities to expand potential areas of comparative advantage

**Action 1:** Incentivise businesses to invest in R&D and expand in new products/markets

**Action 2:** Coordinate between relevant business associations, domestic manufacturers and global players to facilitate standardisation of both products and production processes

## 4. Identify **emerging skills' requirements** and liaise with engineering universities and Navttc to ensure appropriate intervention at the earlier stage

## Emerging skills' requirements in global auto industry

### 6.2.2.1 Product engineer

A product engineer would need to have the following knowledge, skills and competence:

- knowledge of materials and multi-material design
- knowledge on new design and simulation tools
- knowledge of regulatory aspects
- ability to work in multidisciplinary and international teams
- ability to communicate effectively
- problem solving and project management skills

An R&D engineer/technician would need to have the

### 6.2.2.3 R&D engineer/technician

following knowledge, skills and competence:

- basic understanding of the manufacturing process
- competence in terms of entrepreneurship
- basic knowledge of the ways in which supply chains function
- understanding of technological applications for advanced material and in advanced manufacturing
- understanding of market trends so as to respond to consumer requirements
- ability to work in teams
- ability to communicate effectively

### 6.2.2.2 Process engineer

A product engineer would need to have the following knowledge, skills and competence:

- knowledge of new materials and related processes
- knowledge and experience in mechatronics
- ICT skills for use in production systems
- ability to work in multidisciplinary and international teams
- ability to communicate effectively
- problem solving and project management skills

### 6.2.2.4 3D printing technician

A 3D printing technician would need to have the following knowledge, skills and competence:

- knowledge of software applications and hardware
- knowledge of new materials
- ability to follow relevant instructions, assembly drawings and any other specifications
- ability to use the appropriate methods and techniques to print the different components
- ability to check the completed components so as to ensure that the finished product meets the required specification



# Summary

- Auto policy in its current form needs a major revamp
- **EAG believe** that any policy which continues to incentivise production activities where Pakistan lacks necessary capabilities is bound to fail
- Given our capabilities, there is considerable scope to achieve industrialisation by shifting policy focus away from end-product towards components of the supply chain
- A successful policy in this respect will be a combination of:
  1. Attracting global manufacturers through trade liberalisation and secured cross-border arrangements in exchange for integrating domestic manufacturer in their value chains
  2. Actively working towards signing FTAs with key markets to expand market access for domestic manufacturers
  3. Coordinating across domestic and international stakeholders to improve quality, achieve standardisation, and ensure the available of necessary skills in domestic markets
  4. Replacing existing incentive structure with one which incentivises investment in R&D and expansion in new products/markets

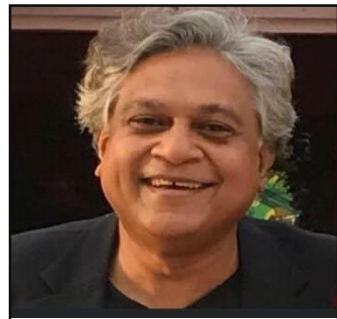


Thank You!



# Economic Advisory Group (EAG)

Economic Advisory Group is an independent platform of individuals drawn from economics, policy and private sector. EAG deliberates on Pakistan's economic policies regularly and shares its views with the public and the government. It was formed in January 2021 under the auspices of an independent think tank PRIME Institute which serves as its secretariat.



**Syed Javed Hassan**



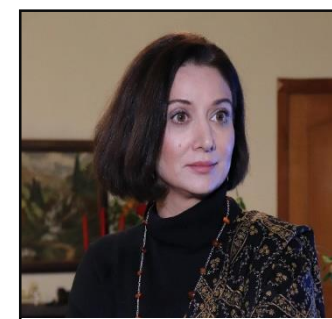
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