Indian Economy · GS - III

Should governments use public investment and equity participation to secure strategic control over critical technologies? Discuss with reference to the semiconductor industry.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 25/11/2026	GS - III	Indian Economy

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Strategic autonomy, public-sector investment, semiconductor ecosystem, market competition, fiscal risks, technological sovereignty, private-sector innovation

Model Answer

Introduction

Semiconductors are foundational to modern economies, defence systems and artificial intelligence. Their strategic importance has encouraged governments to move beyond conventional regulation towards direct financial participation in critical technology industries.

Why Government Participation Is Increasing

1. **National security:** Access to advanced chips is essential for defence, telecommunications, aerospace and critical infrastructure.

2. **Supply-chain resilience:** Domestic investment reduces exposure to geopolitical tensions, export restrictions and disruptions in global semiconductor supply chains.

3. **High investment barriers:** Semiconductor fabrication requires substantial capital, specialised infrastructure and long gestation periods, often discouraging private investment.

4. **Technological competitiveness:** Public funding can support research, skilled workforce development and innovation in chip design and manufacturing.

Risks of Direct State Ownership

1. **Market distortion:** Preferential treatment may weaken competition and discourage efficient private investment.

2. **Fiscal exposure:** Semiconductor projects involve technological uncertainty and substantial financial risks for public funds.

3. **Political interference:** Commercial decisions may become influenced by short-term political priorities rather than technological efficiency.

India's Strategic Approach

India should combine targeted public incentives with private-sector expertise through the India Semiconductor Mission. Investment in fabrication, packaging, design, research and skilled manpower can strengthen the domestic ecosystem.

Conclusion

Public equity participation can be justified in strategically critical sectors, but it should remain selective, transparent and accountable. The objective must be technological resilience and innovation rather than permanent state control over commercial enterprises.

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