



Five Forces Analysis of Pharmaceutical Raw Material



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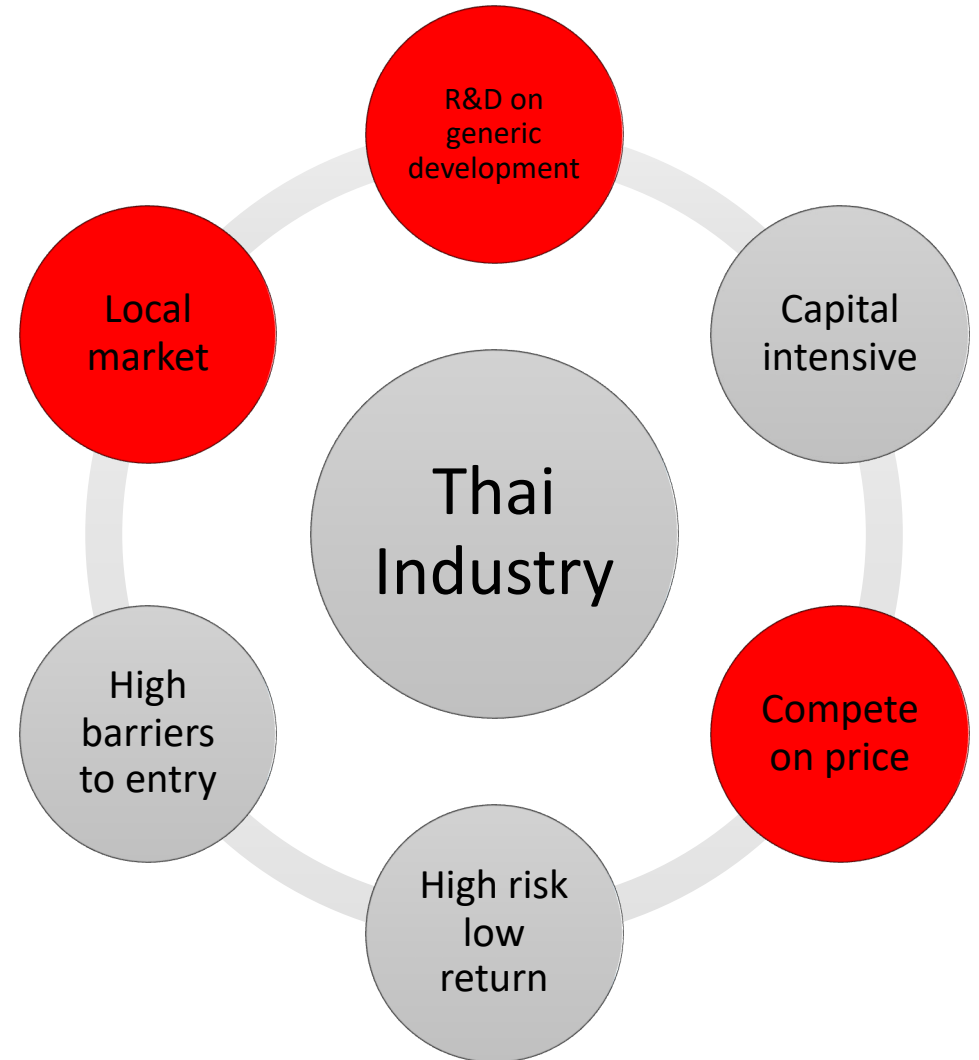
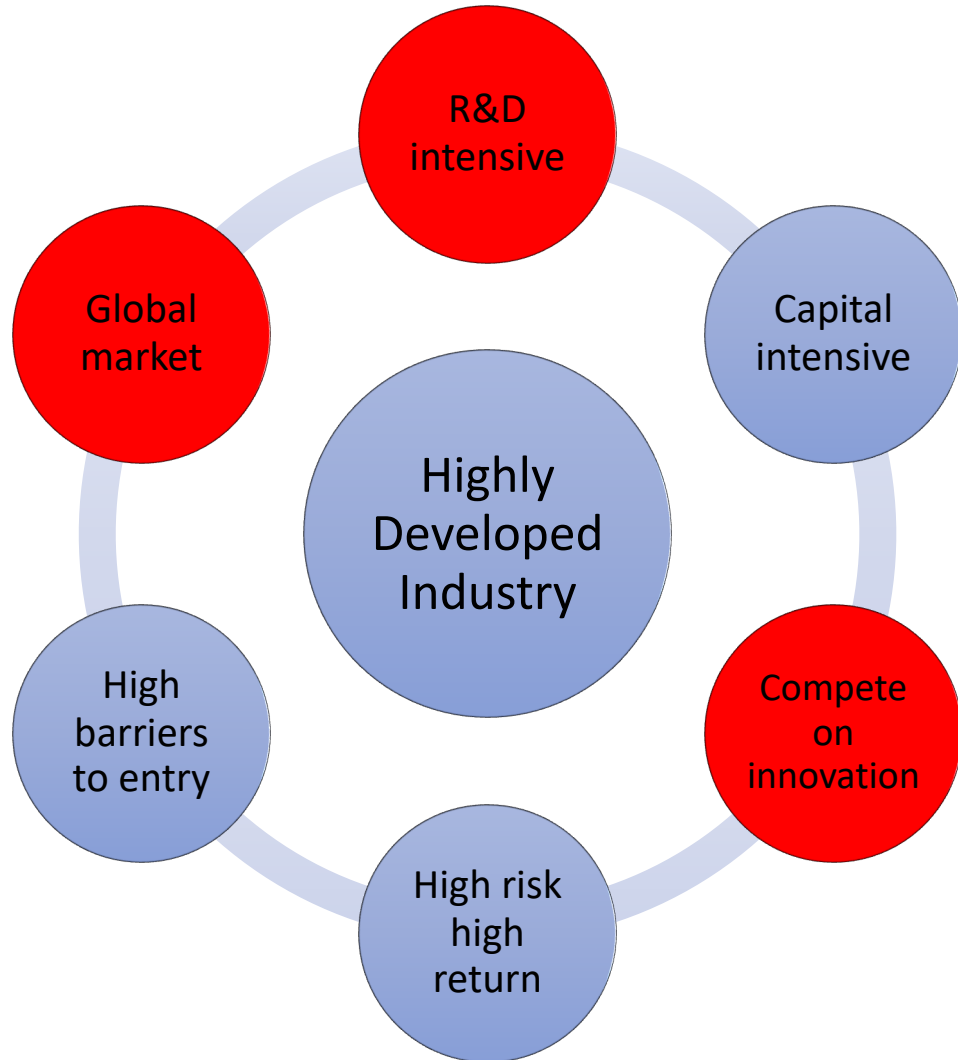
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Outline of Presentation

- Current Situation of Pharma Industry
 - Market
 - Thailand ecosystem
- Active Pharmaceutical Ingredient
 - Market
 - Industrial analysis

Characteristics of Pharma Industry

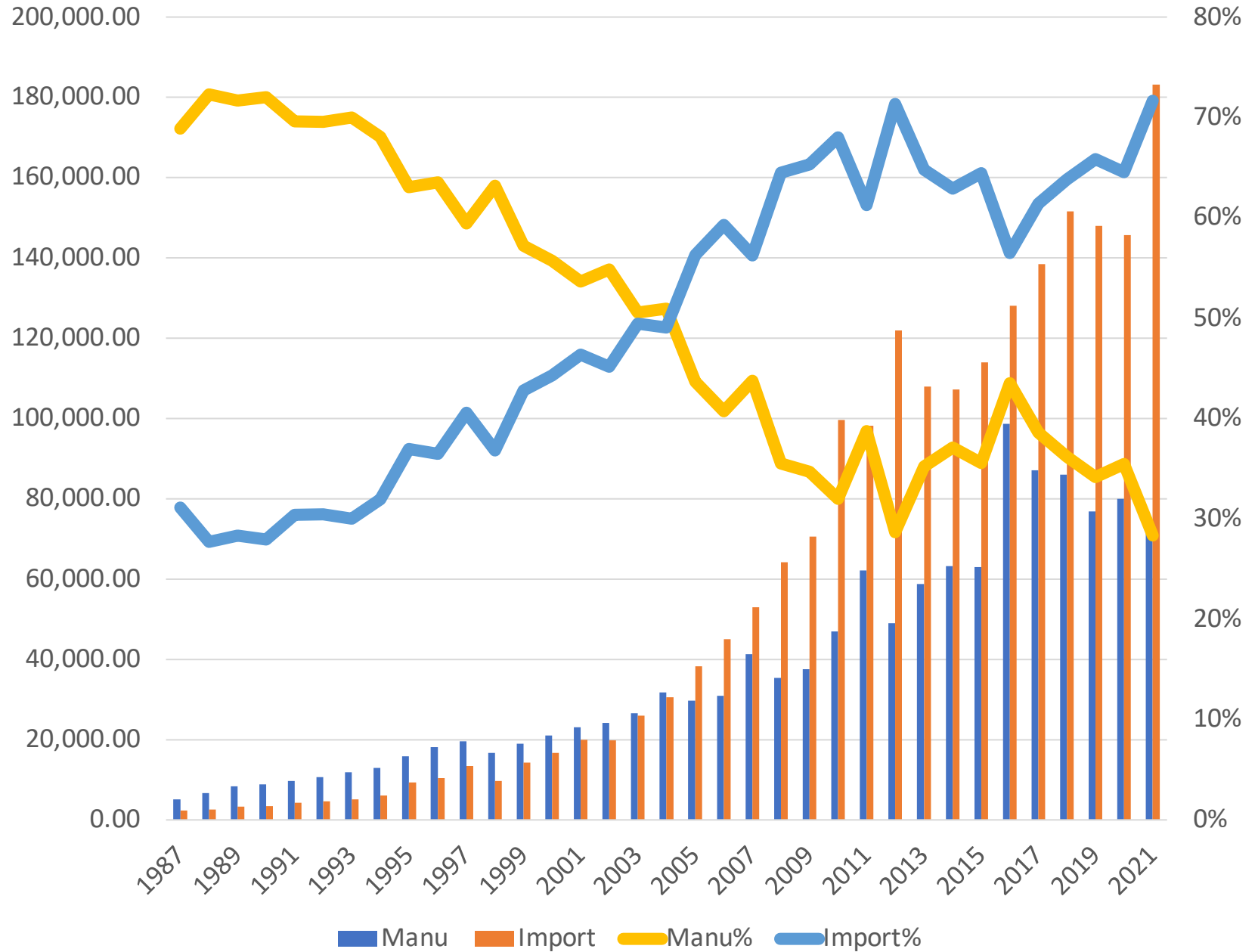


Pharmaceutical Market Trend in Thailand

CAGR (Cum Annual Growth Rate)

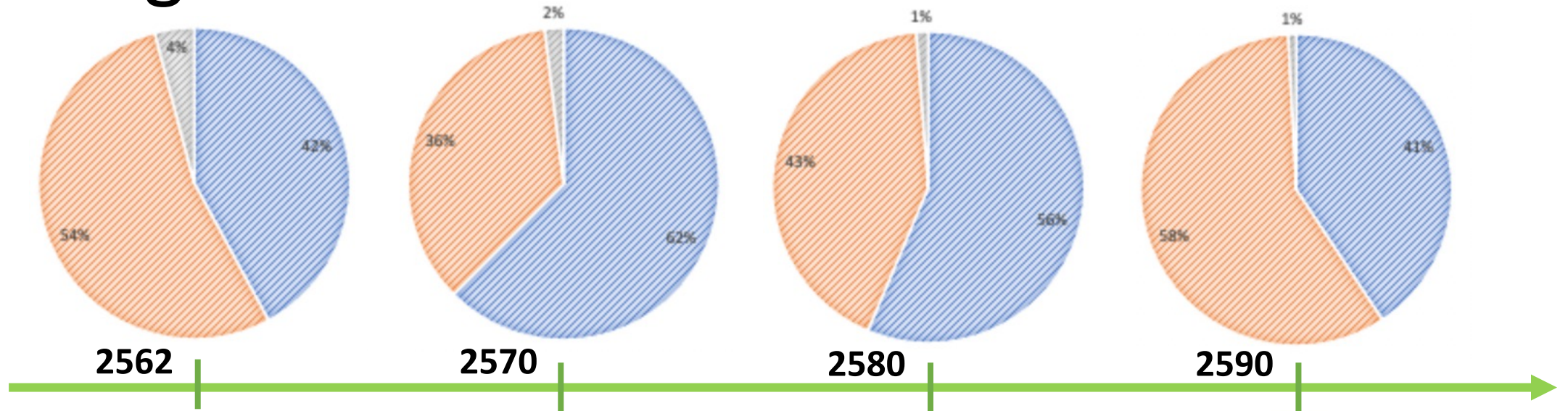
• **Manufacture 10 & 34 yr**
2.48% / 8.09%

• **Import 10 & 34 yr**
6.43% / 13.70%



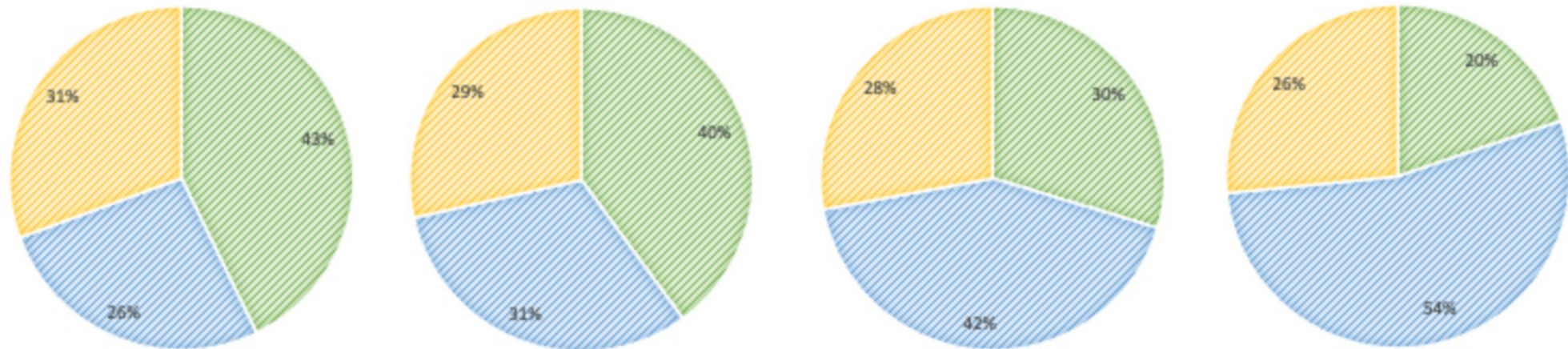
Biologics

Patented[B] ImpGen[B] LocalProduction(B)

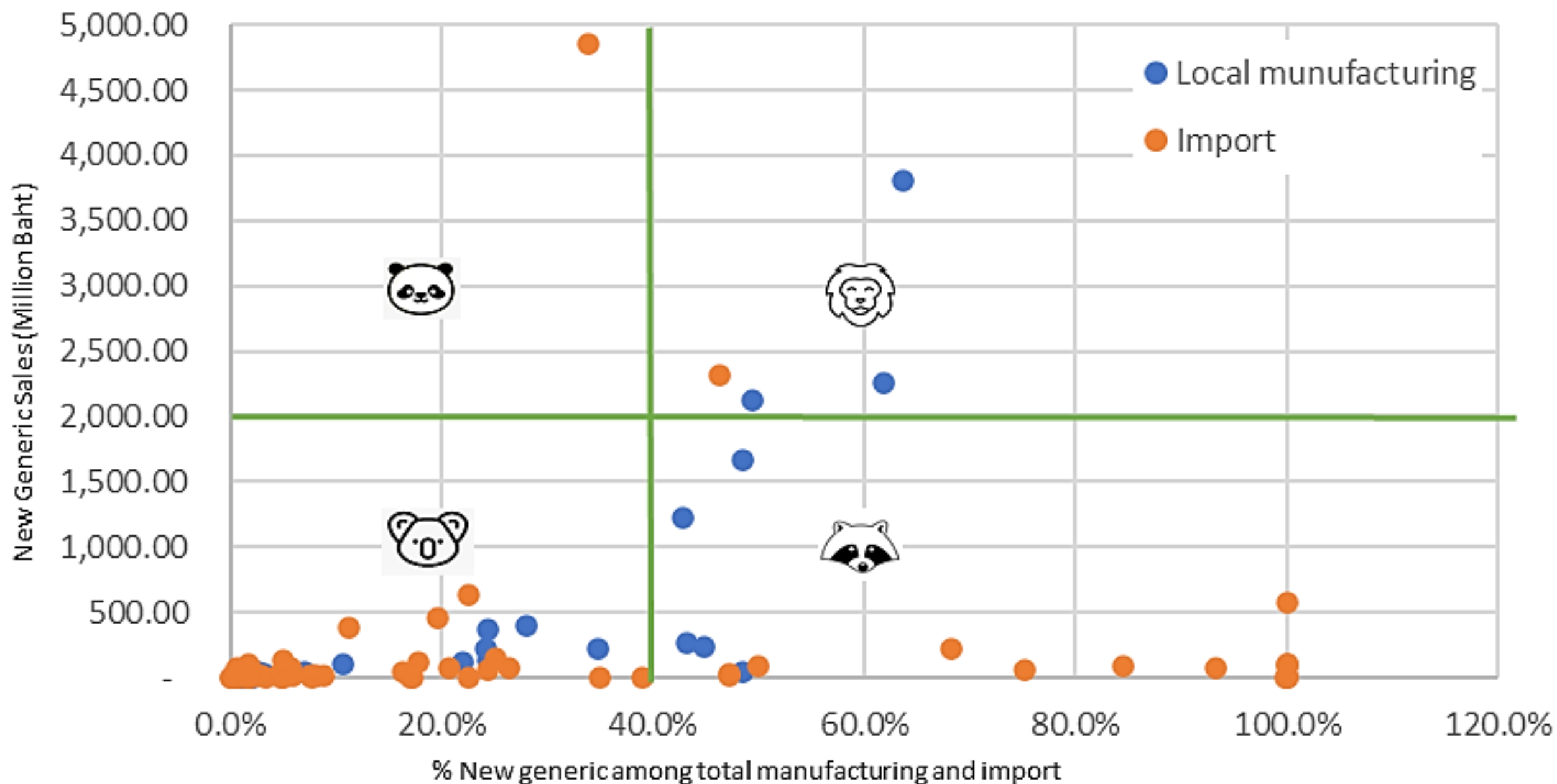


Chemicals

Patented[chemical] ImpGen[chemical] LocalConsumption(c)



Proportion of new generic by local manufacturing and import in 2562



Active Pharmaceutical Ingredients



SYNTHETIC CHEMICAL API

- Need imported starting material



BIOTECHNOLOGICAL API

- Integrated with product development process



EXTRACT OF NATURAL PRODUCTS

- Raw material is locally available
- GAP
- Health products, i.e., drugs, supplements, cosmetics

Global Market Situation of API

Global API Value

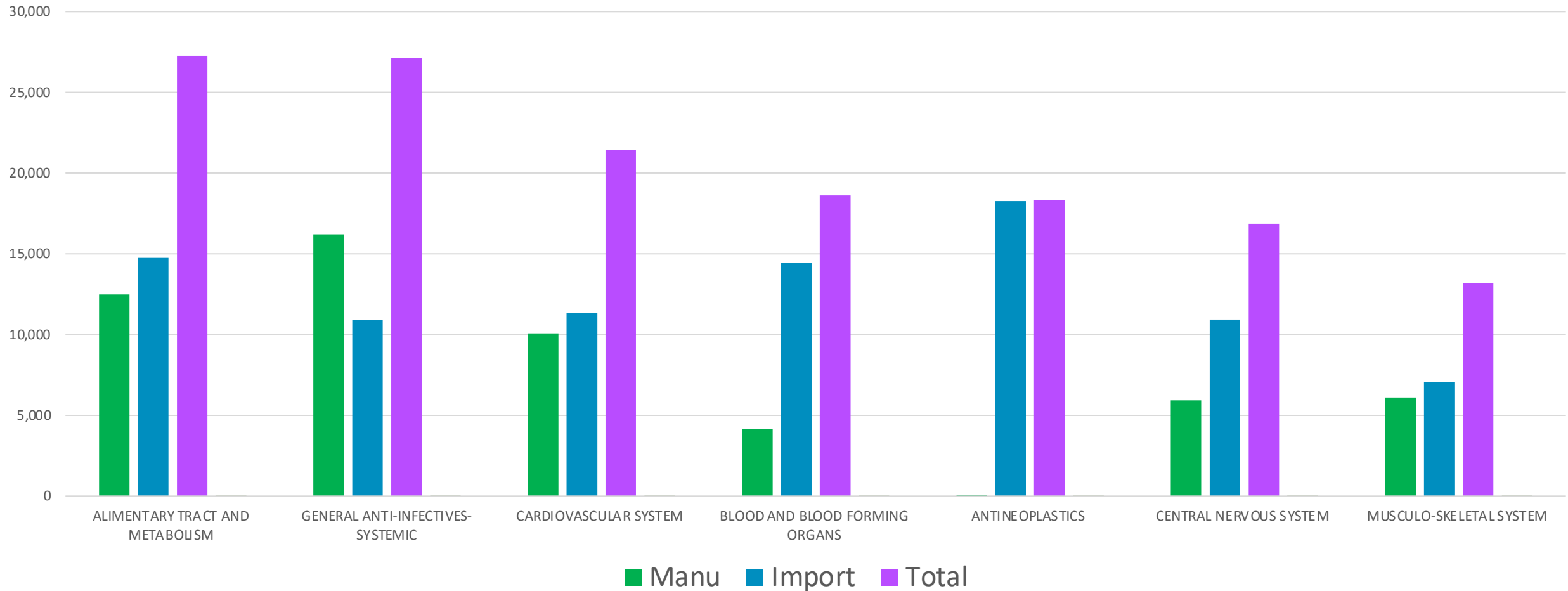
- 212.07 Billion USD in 2022
- 312.37 Billion USD in 2028 (expected)
- CAGR 6.67% (2022-2028)

Market segmentation of API

- Generic Chemical API / Unpatented
 - China and India
- Patent recently expired / Biological API
 - India and Europe
- Originator API / Patented
 - Europe

TOP Spending ATC Groups

CAGR Total	3.43	CAGR Total	4.55	CAGR Total	6.40	CAGR Total	0.62	CAGR Total	6.20	CAGR Total	6.08	CAGR Total	3.29
CAGR Import	1.36	CAGR Import	4.92	CAGR Import	2.84	CAGR Import	-0.84	CAGR Import	6.16	CAGR Import	4.78	CAGR Import	3.30
CAGR Manu	5.18	CAGR Manu	3.15	CAGR Manu	11.05	CAGR Manu	6.84	CAGR Manu	16.20	CAGR Manu	8.73	CAGR Manu	3.27



High Consumption Items

Antiinfection

- Meropenem
- Anti-retroviral

Cardiovascular

- Losartan
- Enalapril
- Amlodipine
- Simvastatin
- Atorvastatin

Alimentary and metabolism

- Metformin
- Omeprazole
- Antacid

5 Forces of API Industry

Rivalry among Existing Competitors

- China and India for generic API
- Europe for patented API
- Very few in Thailand
- Strong R&D
- Speed of entering the market
- Room for quality API

THREAT OF NEW ENTRANTS

Threat of New Entrants

- Capital intensive investment
- Economy of scale
- No clear government policy
- Technology
 - R&D
 - Starting Material
 - Quality

BARGAINING POWER OF SUPPLIERS

Bargaining Power of Suppliers

- Depend on regulation
 - Starting material as drugs
- Need imported starting material

Threat of Substitute Product

- Many suppliers for Generic API
- Switching cost from regulation
 - Variation requires approval
- Generic API
 - Variation requires approval
- Availability of Drug Master File



BARGAINING POWER OF BUYERS

Bargaining Power of Buyers

- Depend on selected drugs
 - Orphan drug has few supplier
- Switching cost from regulation
 - Variation requires approval
- Availability of Drug Master File
- Price sensitivity
- Early availability of API

THREAT OF SUBSTITUTE PRODUCTS

Take Home Message



Pharmaceutical raw material are global market

Clear and aggressive government policy is needed to support the industry

Pharmaceutical excipients have a potential

ขอบคุณค่ะ

