

Price determinants of medical procedures, devices, and medicine: A comparative analysis of national health insurance in five countries

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INTRODUCTION

- **Supply Disruptions:** Several **medical companies** have **stopped supplying** certain countries with some type of medical supplies **due to disagreements over prices**, making hard for patients to access essential treatments.
- **Price Conflict:** **Healthcare providers** are pushing for **higher prices**, while **policymakers** are working to ensure **equitable pricing** for medical services.
- **Lack of Communication:** There isn't enough discussion about **what fair prices should be** and **what factors should influence those prices**.

AIM

- **Compare service fees** across multiple countries.
- Analyze the **configuration of causal factors** influencing medical service fees.

METHOD

1. Target Countries

- Australia, France, Japan, Korea, Taiwan

2. Fee Schedule Analysis

- 202 physician services, 2,594 medical devices, and 37 studies of pharmaceuticals

3. Key Determinants

Demand	- Income: Government health expenditure (% of GDP) - Age: Population aged 65+ (%)											
Resources	- Workforce: Practicing physicians, nurses, and midwives - Facilities: Hospitals, beds											
Services	Outpatient visits, average length of stay											
Financing	Government schemes (% of total health expenditure)											
Publicity Level	Publicity = Basic score $\times$ weight											
	<table><tr><th>Basic Score</th><th colspan="3">Weighting Factors</th></tr><tr><td rowspan="2">Scheme type</td><td colspan="2">Social value</td><td rowspan="2">Public Resources</td><td rowspan="2">Public financing</td></tr><tr><td>Core principles</td><td>Social solidarity</td></tr></table>	Basic Score	Weighting Factors			Scheme type	Social value		Public Resources	Public financing	Core principles	Social solidarity
	Basic Score	Weighting Factors										
	Scheme type	Social value		Public Resources	Public financing							
		Core principles	Social solidarity									
	* Scheme type: NHS, NHI, SHI, PHI * Core principle: Universalism, Corporatism, Liberalism * Social solidarity: Insured, Country											
Regulatory Intensity	Regulatory intensity = $\sum$ basic score $\times$ $\sum$ weight											
	<table><tr><td rowspan="3">Basic Score</td><td>Economic regulation: Entry, pricing, transaction, quality</td></tr><tr><td>Social regulation: Public interest, environment</td></tr><tr><td>Administrative execution: Data, information</td></tr><tr><td rowspan="3">Weighting Factors</td><td>Timing: Pre-, during, post-implementation</td></tr><tr><td>Affected groups: National, sector-specific, targeted</td></tr><tr><td>Approach: Positive, mixed, negative</td></tr><tr><td></td><td>Sunset provisions: None, review, expiration</td></tr></table>	Basic Score	Economic regulation: Entry, pricing, transaction, quality	Social regulation: Public interest, environment	Administrative execution: Data, information	Weighting Factors	Timing: Pre-, during, post-implementation	Affected groups: National, sector-specific, targeted	Approach: Positive, mixed, negative		Sunset provisions: None, review, expiration	
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4. Statistical Analysis

- ANOVA F-test, Tukey post hoc test, Fuzzy-set qualitative comparative analysis (Fs/QCA)

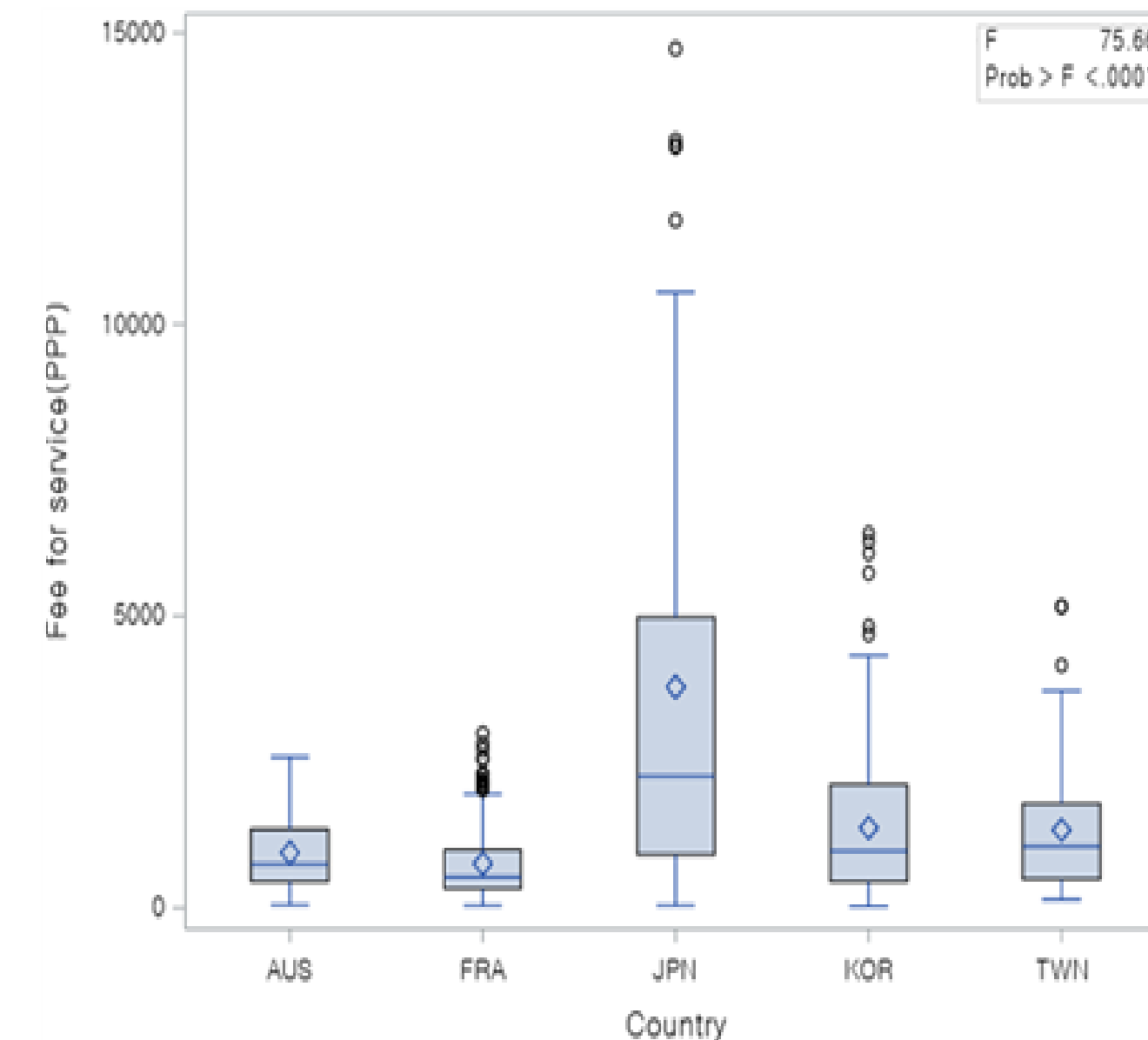
RESULTS

➤ **Difference in medical fees**

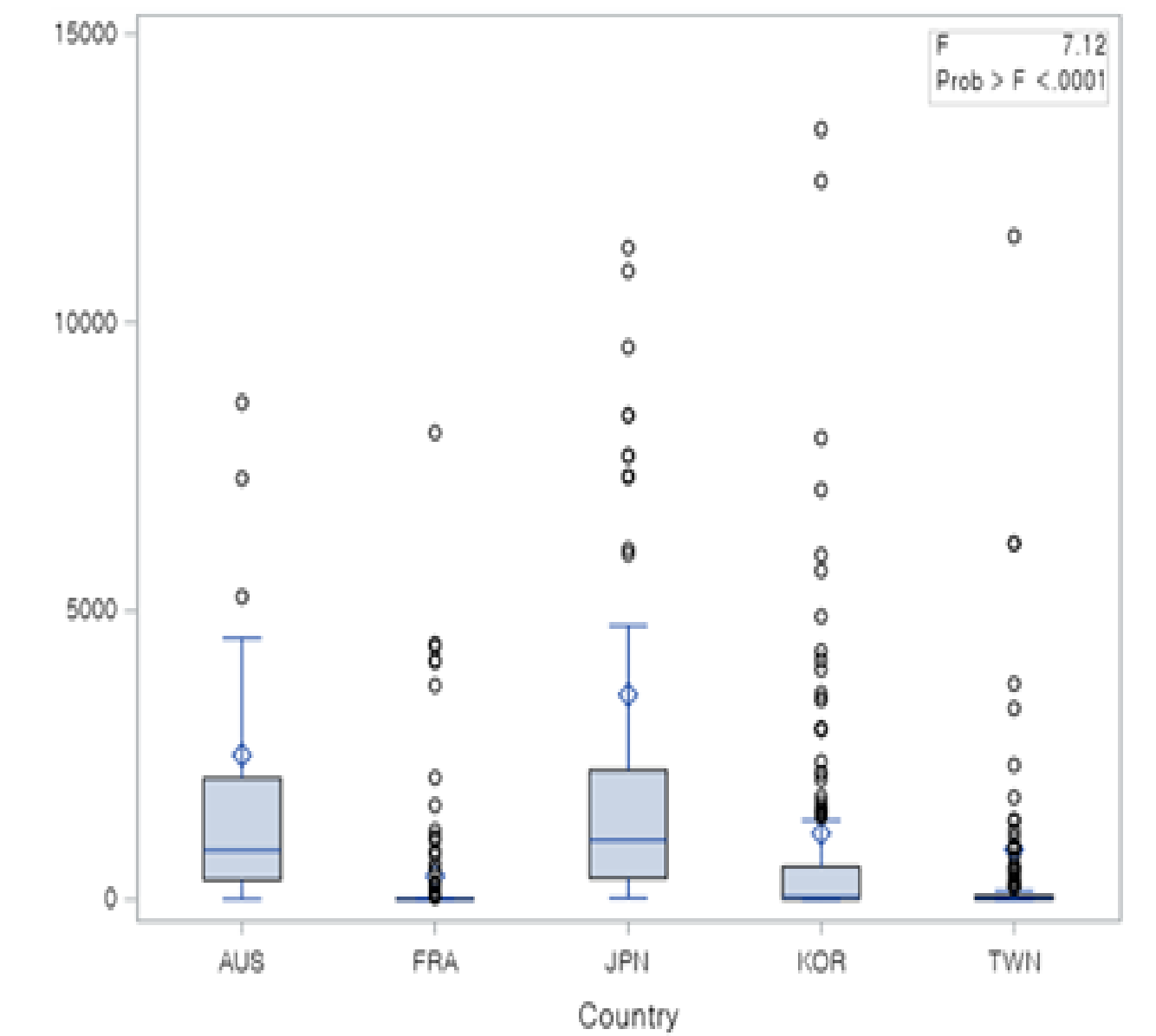
- **Average fee level in comparison**
- **Physician services**

	Medical procedure	Medical device	Pharmaceutical
AUS	0.70	1.15	0.58
FRA	0.50	0.72	0.54
JPN	1.91	1.10	0.75
KOR	0.88	1.07	0.72
TWN	0.99	0.98	0.78

- Physician services and medical device: converted to USD based on Purchasing Power Parity (PPP).
- Pharmaceuticals: referenced six comparative studies involving over four countries, using Fisher, Laspeyres, Paasche, and Walsh indices.



- **Medical devices**



➤ **Causal configuration**

- **High Medical Fees:** ~Demand * Resources * ~Financing
- **Low Medical Fees:** Services * ~Publicity * Regulation

	Selected configuration	Excluded configuration
High Medical Fees	~Demand* ~Financing	~Services* Publicity* ~Regulation
		Services* ~Publicity* Regulation
		~Resources* ~Services* Publicity* ~Regulation
		Resources* Services* ~Publicity* Regulation
		~Services* Publicity* ~Regulation
		Services* ~Publicity* Regulation
	~Demand* Resources* ~Financing	~Services* Publicity* ~Regulation
Low Medical Fees	~Demand* ~Financing	Resources* ~Services* Publicity* ~Regulation
		~Resources* ~Services* Publicity* ~Regulation
		Resources* Services* ~Publicity* Regulation
	Services* ~Publicity* Regulation	~Demand* Resources* ~Financing
		Demand* ~Resources* Financing

CONCLUSIONS

➤ **High Medical Fees**

- Occur when **medical resources are abundant** but medical service **demand and financial support** from health insurance are **low**.
- **Providers** may **propose medical fees higher** than the actual costs to preserve their profits.
- **Policymakers** should **increase financial support** and **offer incentives to prevent supply shortage**.

➤ **Low Medical Fees**

- Result from the **low level of public interest in national health insurance and increased healthcare provision**, leading to **cost-containment policies**.
- To ensure quality of care, **regulations** should be gradually **relaxed**, and **incentives** such as **pay-for-coordination** and **performance** should be introduced.

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