



**Latin America/Caribbean and Asia/Pacific
Economics and Business Association**

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Second LAEBA Annual Meeting
Buenos Aires, Argentina – November 28-29, 2005

Trade and productive policies: a Latin
American and Caribbean perspective

José Luis Machinea – ECLAC

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**Inter-American Development Bank
Integration and Trade Sector
Institute for the Integration of Latin
American and the Caribbean (INTAL)**



*Trade and productive policies: a Latin American
and Caribbean perspective*

**LAEBA 2005 Second Annual Meeting
“Latin America and Asia: Strategic Policies
for Global Competition”**



NACIONES UNIDAS
UNITED NATIONS

José Luis Machinea

Executive Secretary of ECLAC

28-29 November 2005, Buenos Aires, Argentina

C E P A L

E C L A C

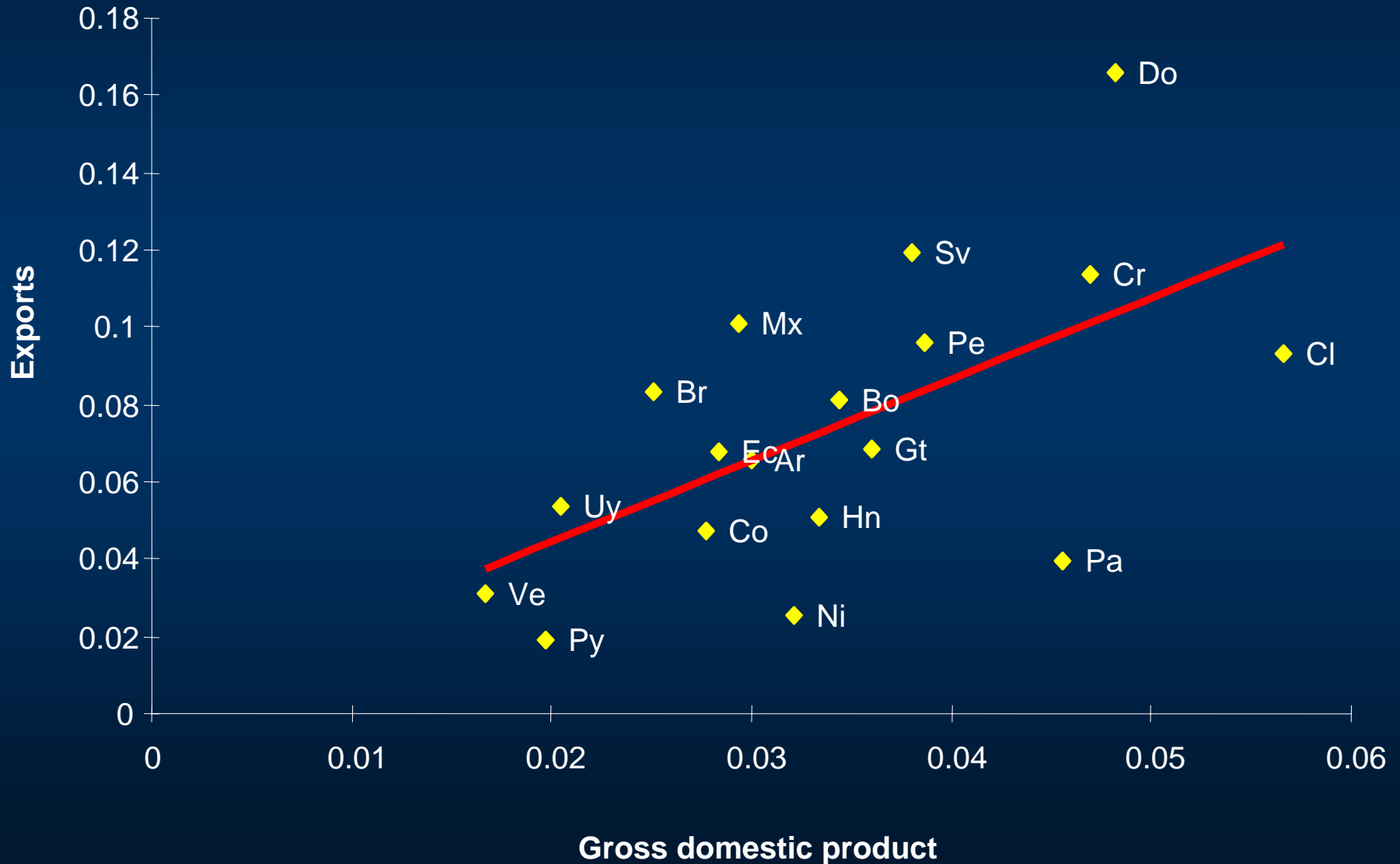
Structure of presentation

- (1) Trade and growth: what do we know?**
- (2) Export dynamics and patterns of integration**
- (3) Productive development policies**

Trade and growth: what do we know?

- ❖ **No clear or conclusive link between trade liberalization and growth**
- ❖ **Importance of how liberalization is carried out and its context**
- ❖ **Positive link between *exports* and growth**

LAC: GDP growth vs. export growth (Average annual rates, 1990-2004)



Structure of presentation

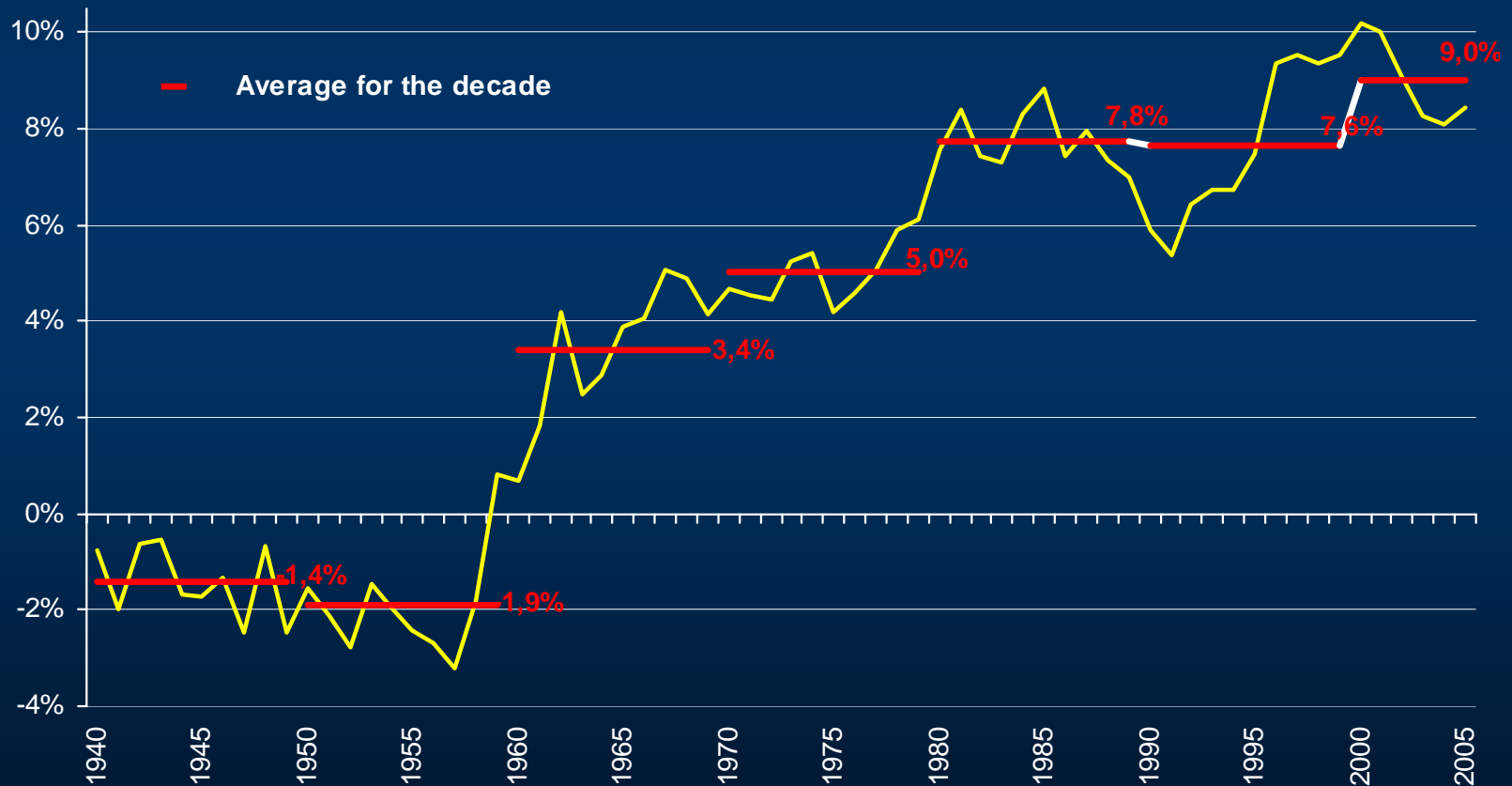
(1) Trade and growth: what do we know?

(3) Productive development policies

Export dynamics

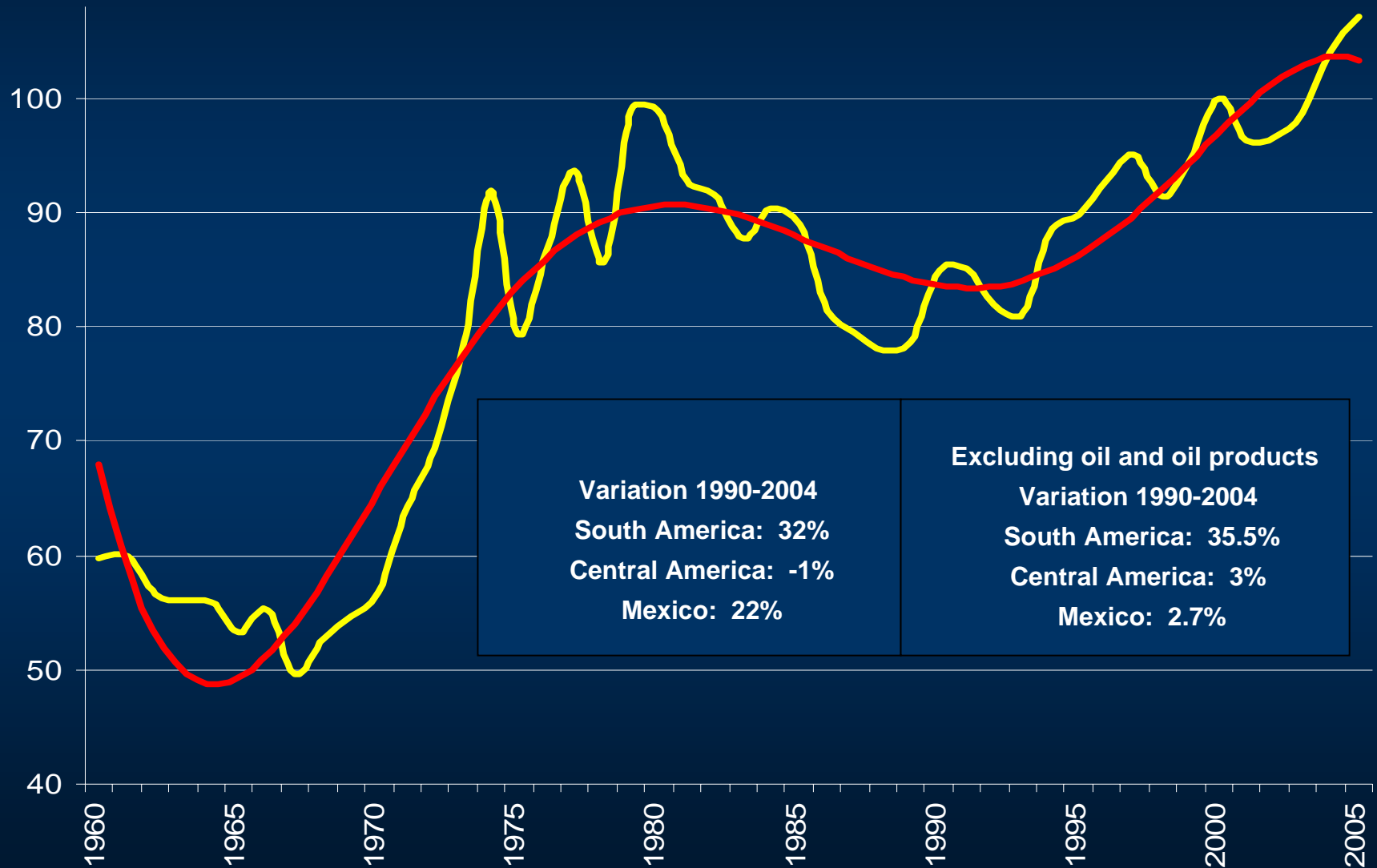
❖ Fastest export growth in the last 25 years.

Latin America: 10-year growth rates of export volumes



Note: Does not include the Bolivarian Republic of Venezuela.

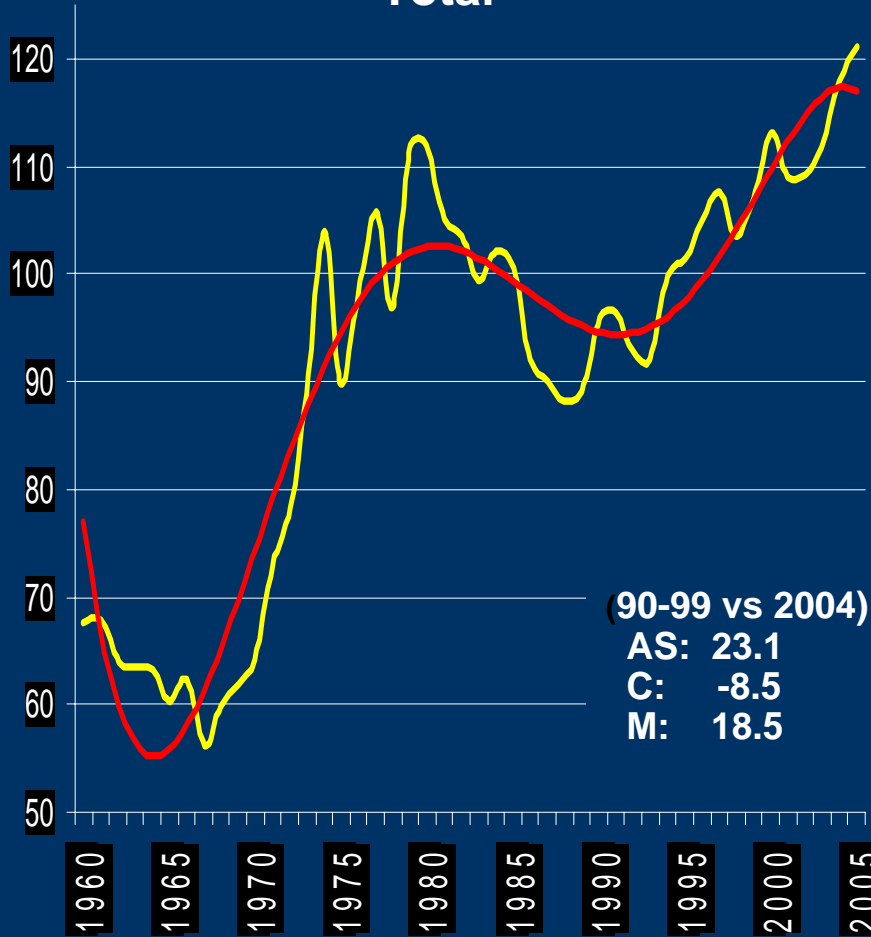
LAC: terms of trade for goods (Index: 2000=100)



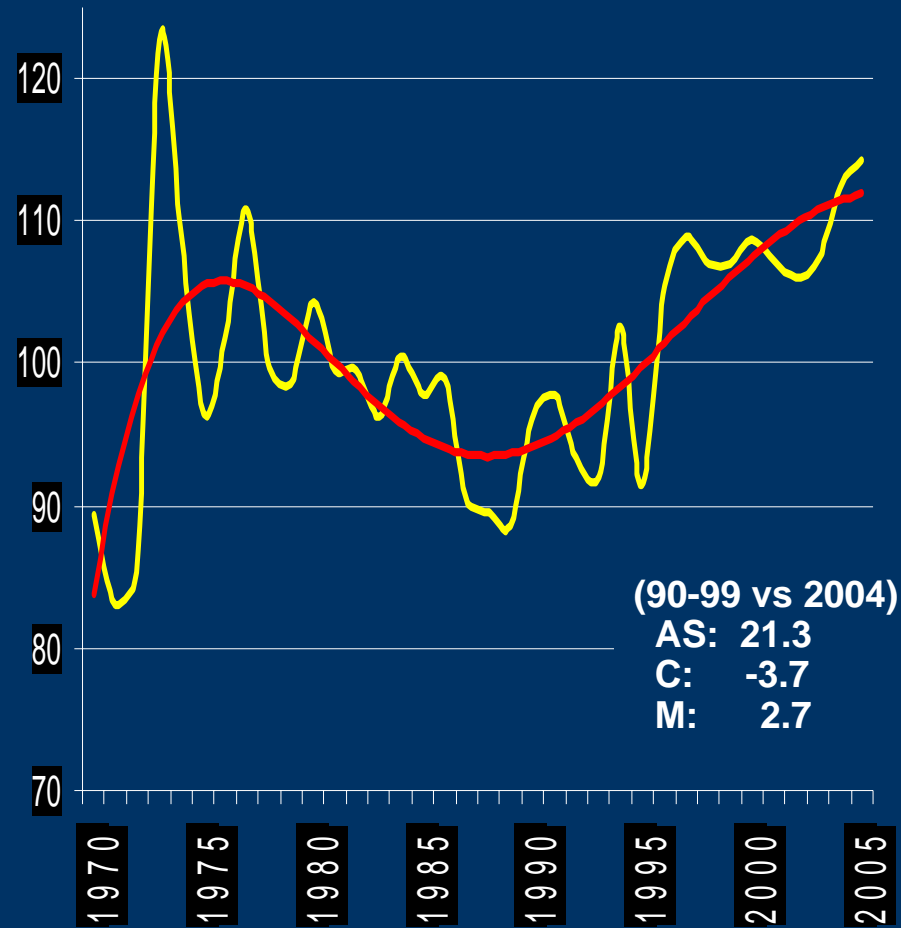
LAC: terms of trade for goods

(Index 90-99=100)

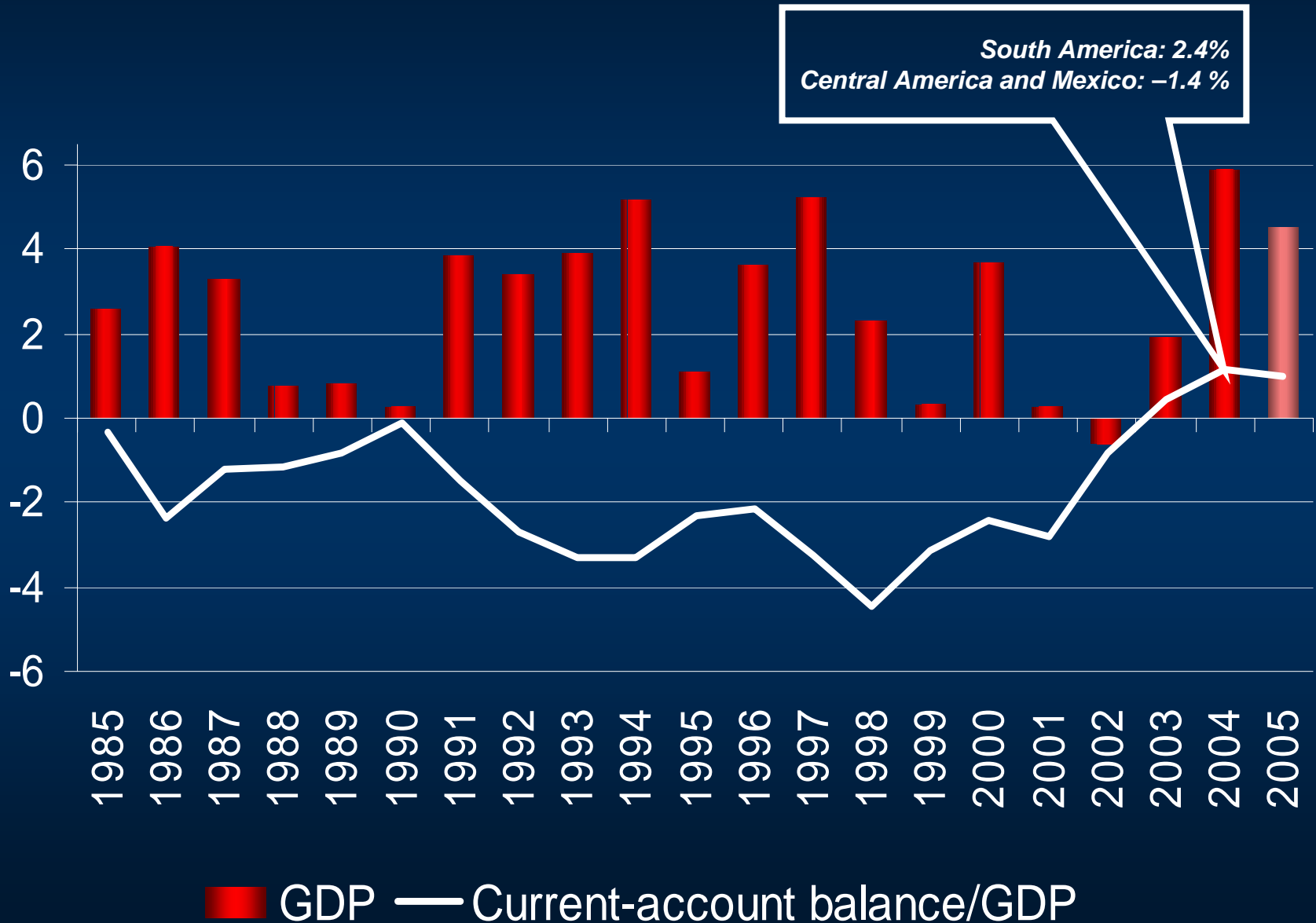
Total



Excluding oil



LAC: GDP growth and current account balance (Percentages of GDP)

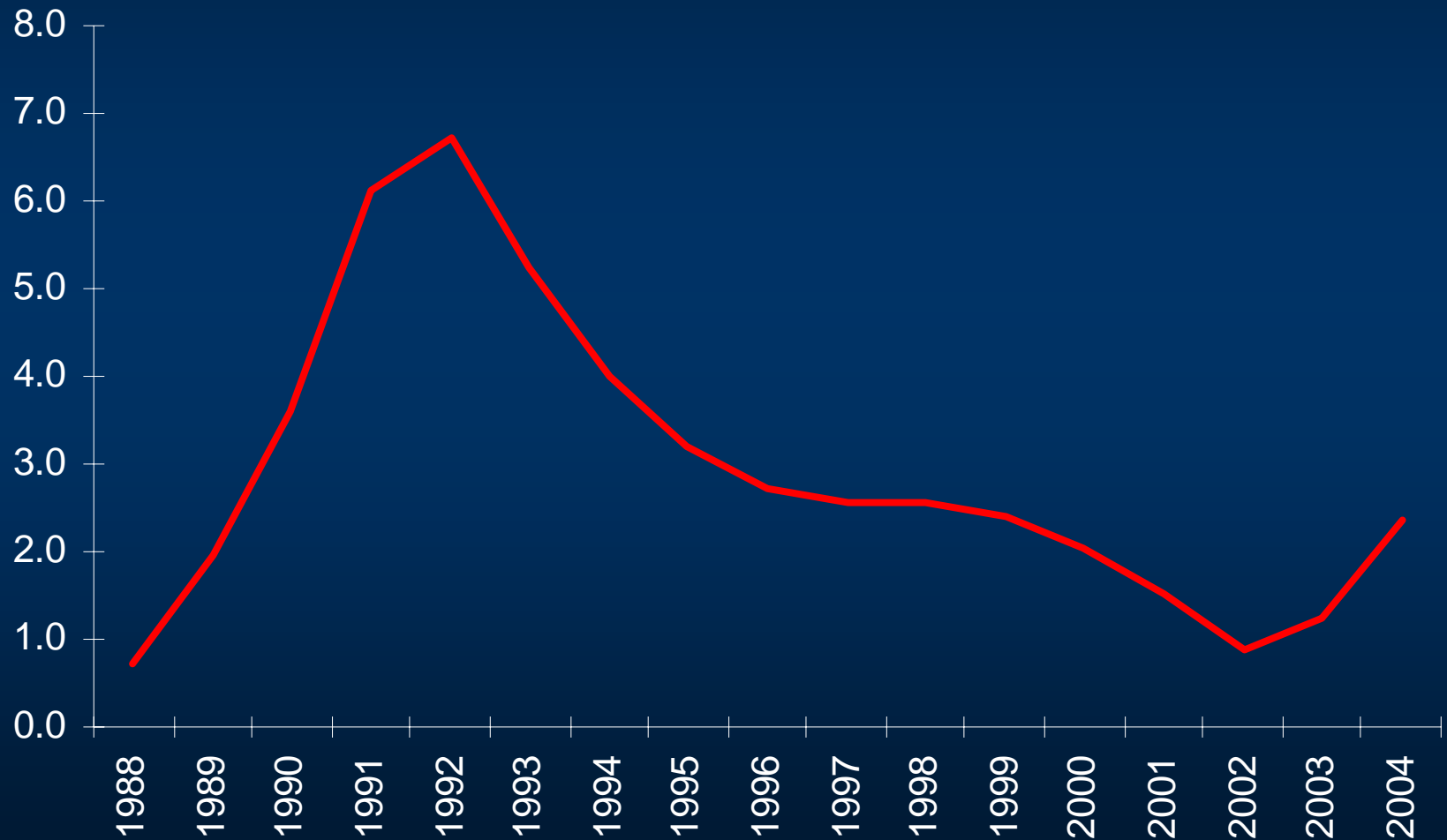


Export dynamics

- ❖ **Is this export growth enough to overcome the external constraints traditionally faced by LAC?**
- ❖ **Two issues are important in answering this question:**
 - **Future trends in the terms of trade**
 - **Degree of income elasticity of imports (large increase in 1990s, now gross elasticity is back to 3-4)**

Latin America: gross import elasticity

(Linear regression, moving 6-year periods)



Estimating an import function for LAC

(Random-effect panel method for 19 Latin American countries)

	Period 1960-1989	Period 1990-2003	Overall period
	ln(imports)	ln(imports)	ln(imports)
ln(GDP)	1.35 (0.000)	3.594 (0.000)	1.793 (0.000)
ln(GDP) _t	-1.267 (0.000)	-3.308 (0.000)	-1.681 (0.000)
ln(imports) _{t-1}	0.937 (0.000)	0.873 (0.000)	0.924 (0.000)
ln(TCR)	-0.043 (0.003)	-0.183 (0.000)	-0.058 (0.000)
Dummy 1982	-0.141 (0.000)	-----	-0.111 (0.003)
Dummy 1990-2003	-----	-----	0.088 (0.000)
Trend	-0.0003 (0.731)	-0.002 (0.412)	-0.001 (0.359)
Constant	-0.248 (0.090)	-1.648 (0.000)	-0.435 (0.001)
Observations	523	247	789
R ²	0.9843	0.9912	0.9875

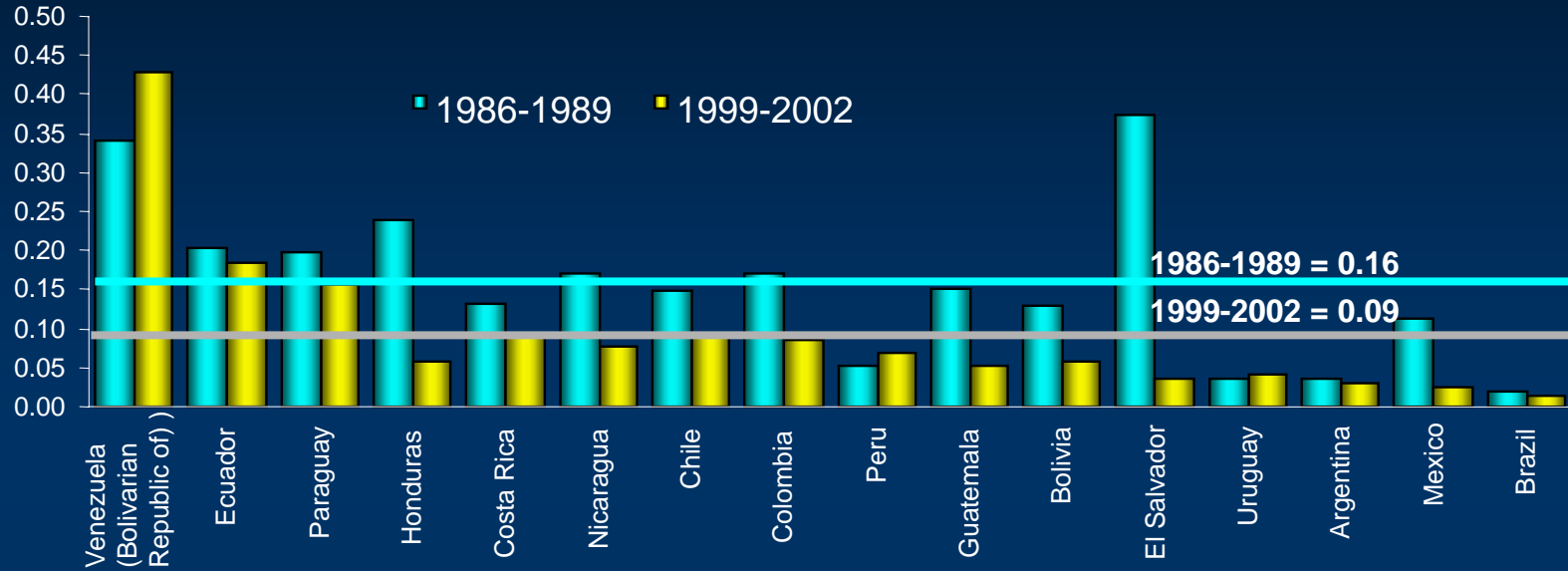
Export patterns and composition of trade

- ❖ **Although with variations across countries, in the last 20 years LAC:**
 - ❖ **has diversified its export basket**
 - ❖ **but has not diversified its export markets**

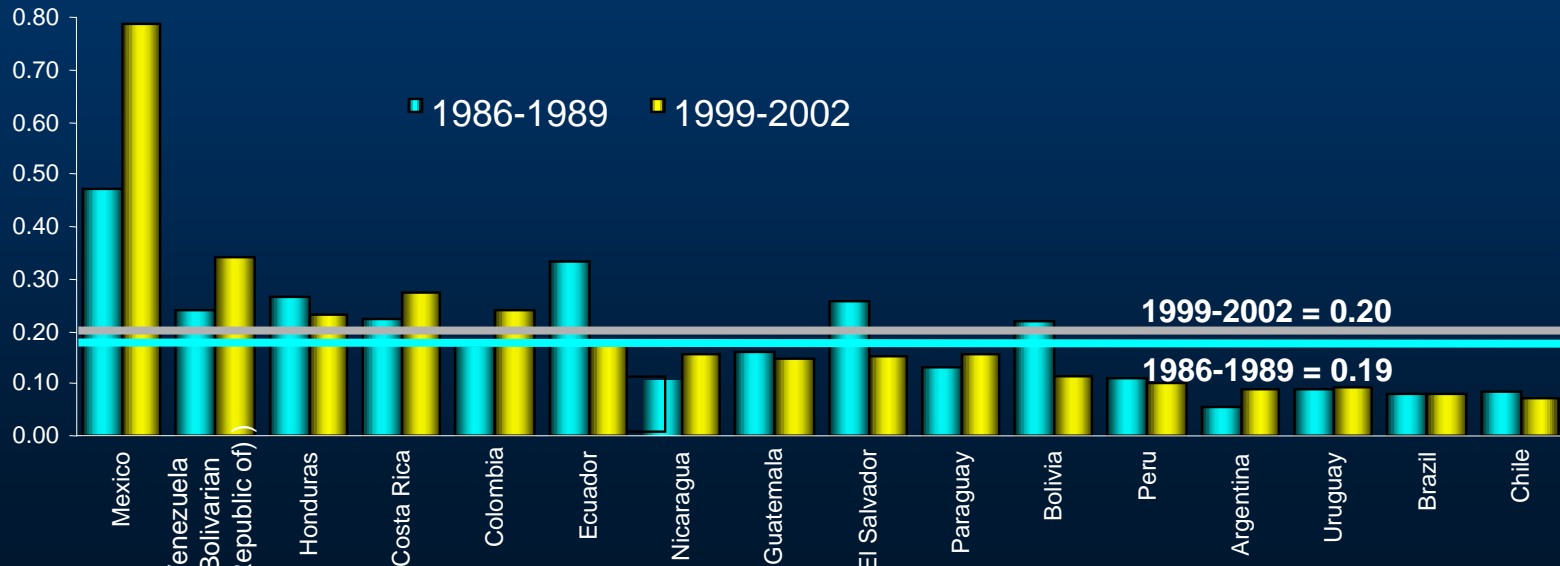
Latin America: concentration of exports

(Herfindahl Hirschman index, 1986-1989 versus 1999-2002)

by product

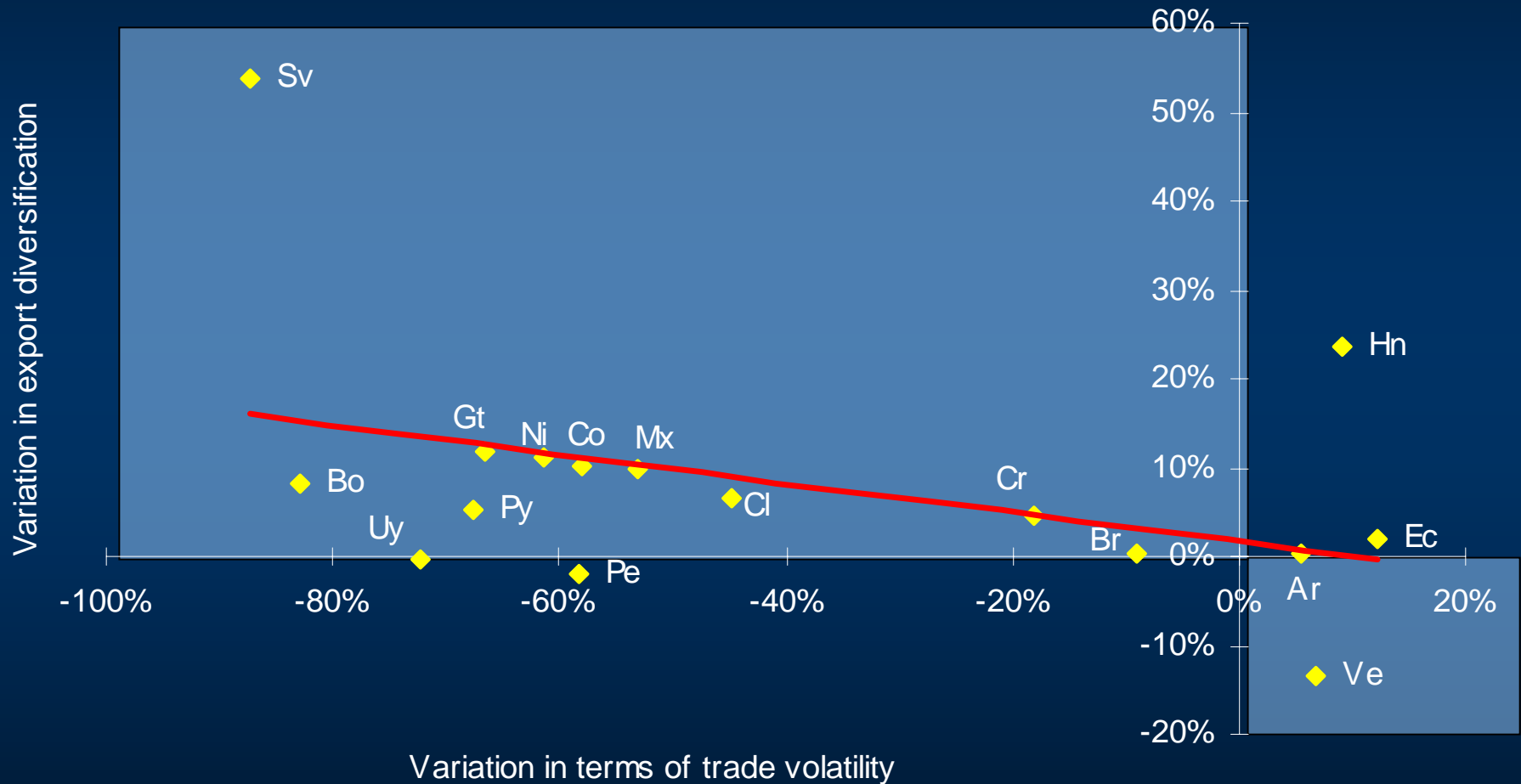


by destination



Latin America: diversification of the export basket and terms-of-trade volatility

(variation around 1986-1989 versus 1999-2002)



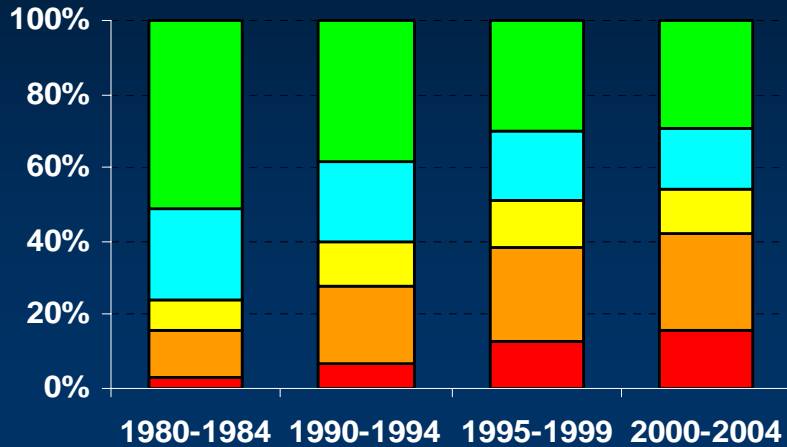
Note: diversification measured as (1-IHH)

Export patterns and composition of trade

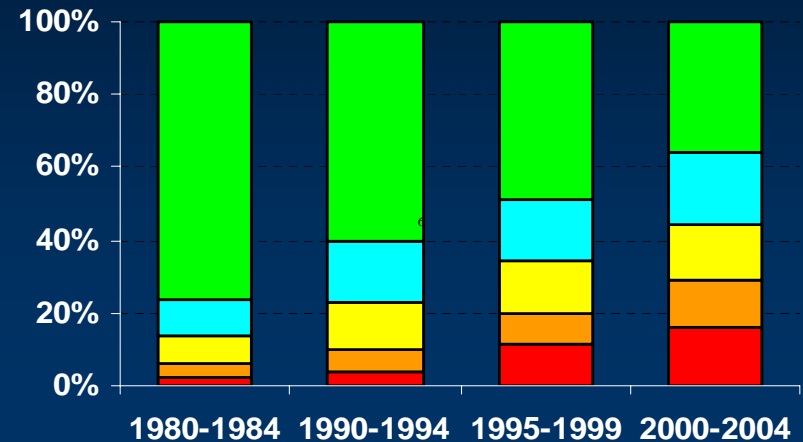
- ❖ **Although with variations across countries, in the last 20 years LAC:**
 - ❖ **has diversified its export basket**
 - ❖ **but has not diversified its export markets**
- ❖ **Three different patterns of export specialization have developed in LAC**
- ❖ **Since 1980 the export basket has become more diversified because of changes in the technological content of LAC exports, but only in Mexico and, to a lesser extent, in Central America (Costa Rica)**

Structure of exports by technological intensity

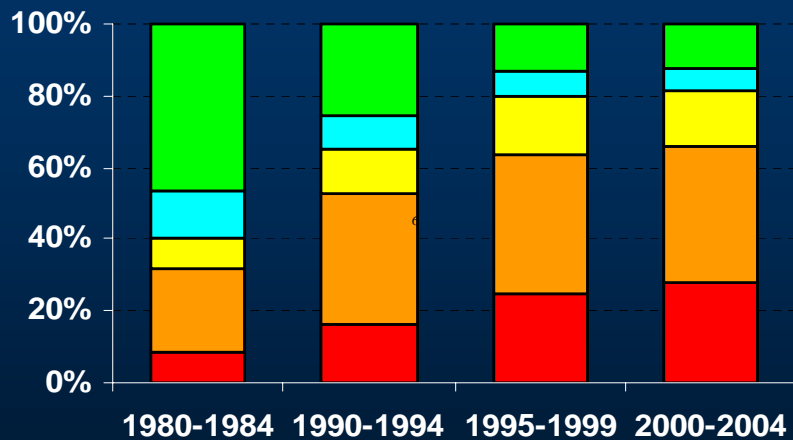
(a) Latin America and the Caribbean



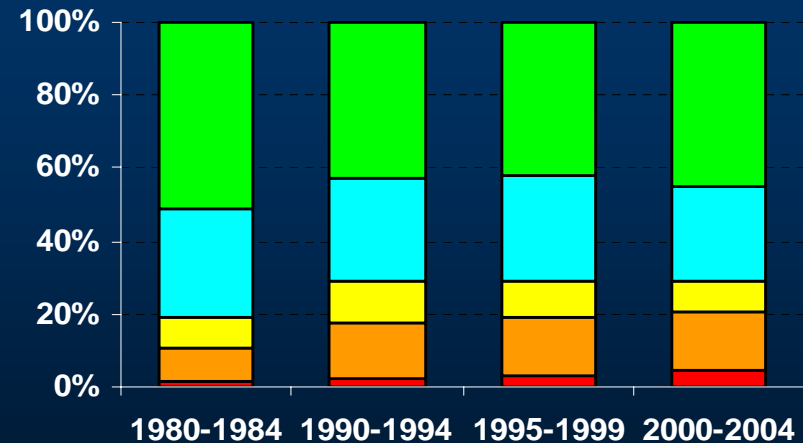
(b) Central America



(c) Mexico



(d) South America

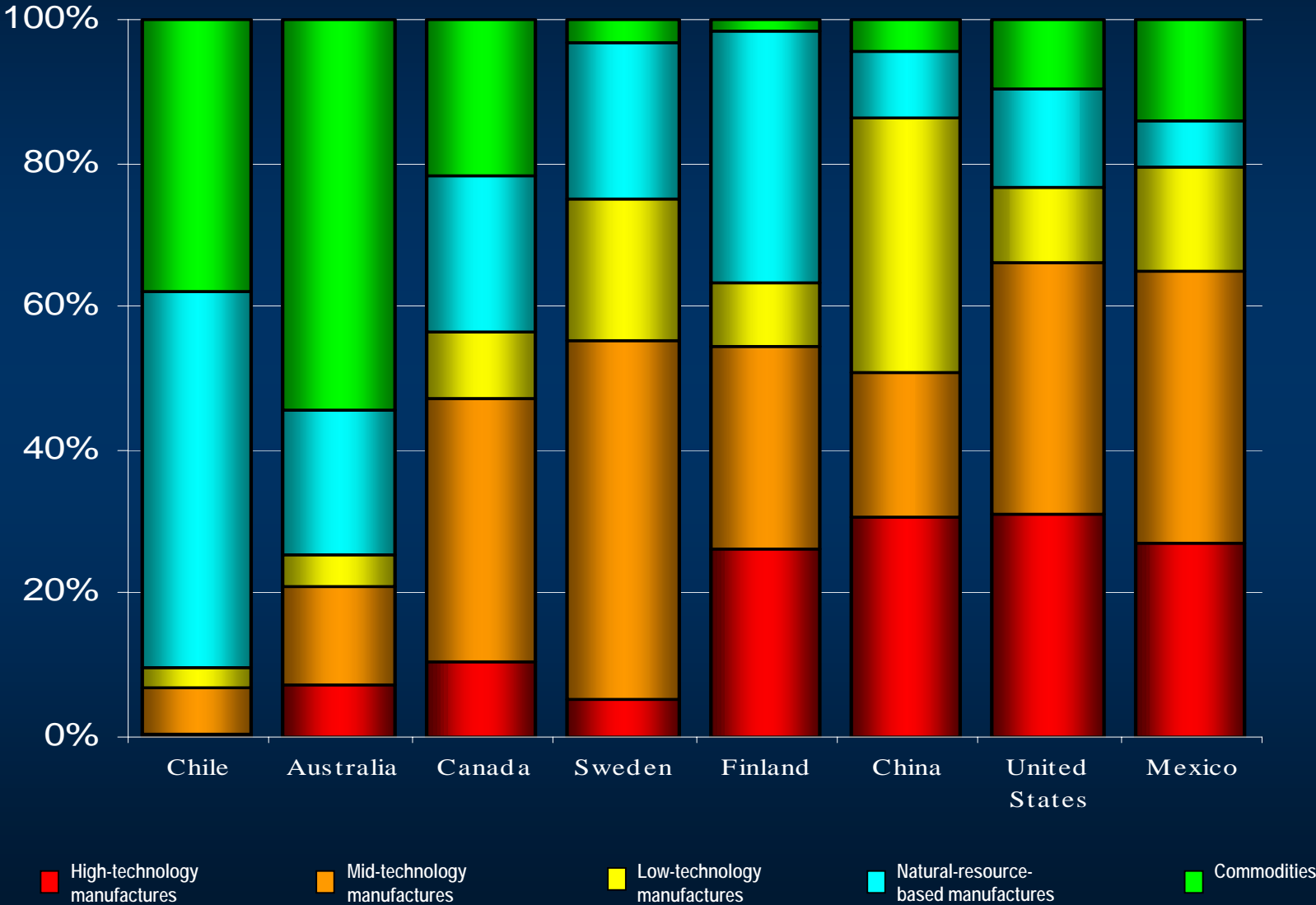


■ High-technology manufactures
 ■ Mid-technology manufactures
 ■ Low-technology manufactures
 ■ Natural-resource-based manufactures
 ■ Commodities

Preference for manufactures with high- and mid-technological content

- ❖ **Greatest growth of world trade share in the last 25 years.**
- ❖ **Primary products may contribute less to growth:**
 - **Less diversification in the production structure (Dutch disease)**
 - **More volatile prices**
 - **Deterioration in terms of trade, though this appears to be changing (China and India)**
 - **Little product differentiation, which discourages innovation**
 - **Difficulty in building linkages because of remoteness from population centres (especially in the case of mining)**

Composition of exports, by technological content, 2004



However, higher technological content has not always been associated with higher growth in LAC and the fastest-growing countries have not necessarily been the ones whose export pattern has changed

(1985-2002)

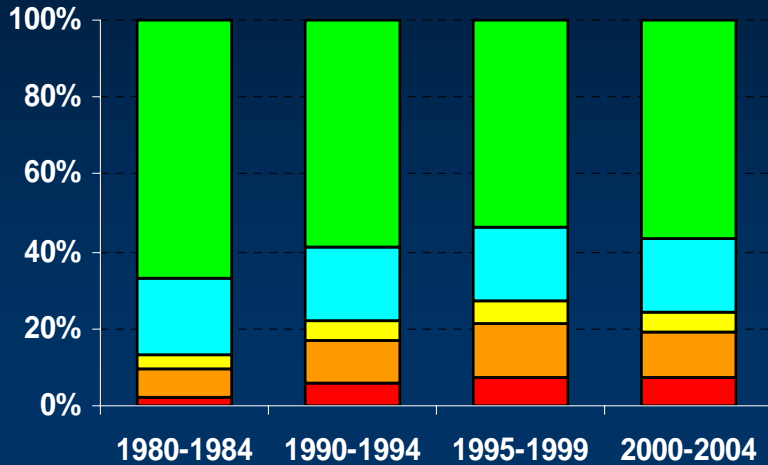
		Increase in goods with high- and mid-technological content as a percentage of total exports	
		> 10 percentage points	< 10 percentage points
Growth in per capita GDP (annualized)	> 1.5%	Costa Rica	Chile, Dominican Republic, El Salvador
	< 1.5%	Brazil, Colombia, Mexico	Argentina, Bolivarian Republic of Venezuela, Bolivia, Ecuador, Guatemala, Haiti, Honduras, Nicaragua, Paraguay, Peru, Uruguay

Per capita GDP growth versus increase in high- and mid-technology goods as a proportion of total exports (1985-2002)

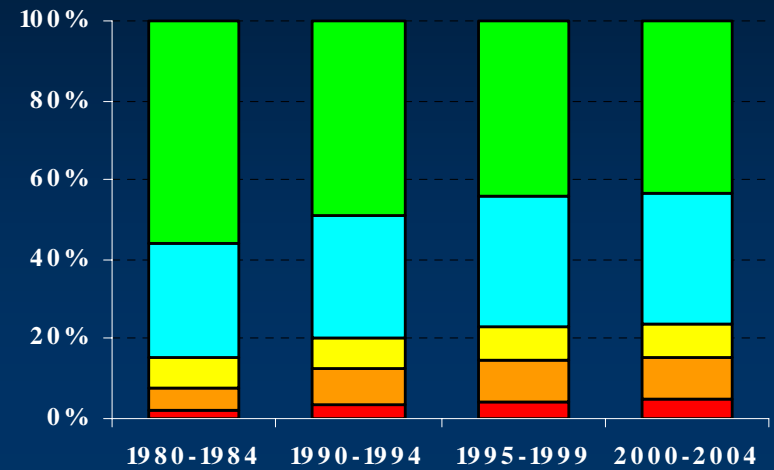
		Increase in high- and mid-technology goods as a proportion of total exports	
		> 10 percentage points	< 10 percentage points
Growth in per capita GDP (annualized)	> 1%	Colombia, Costa Rica	Chile, Dominican Republic, El Salvador, Uruguay
	< 1%	Brazil, Mexico	Argentina, Bolivarian Republic of Venezuela, Bolivia, Ecuador, Guatemala, Haiti, Honduras, Nicaragua, Paraguay, Peru

Moreover, successful countries with abundant natural resources do not exhibit a clear export pattern

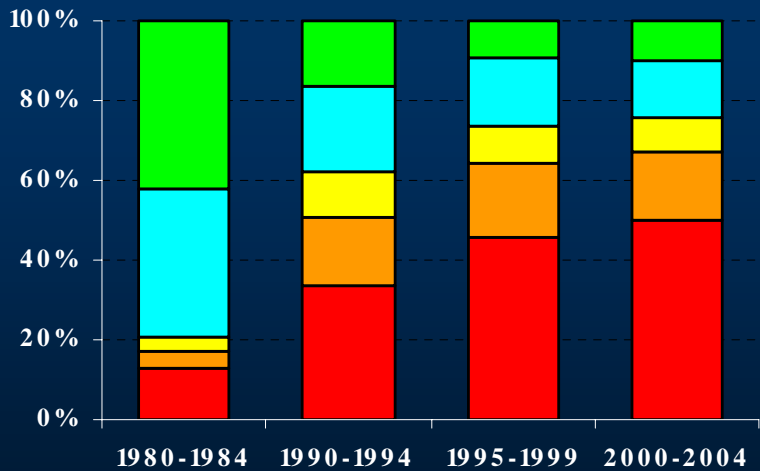
(a) Australia



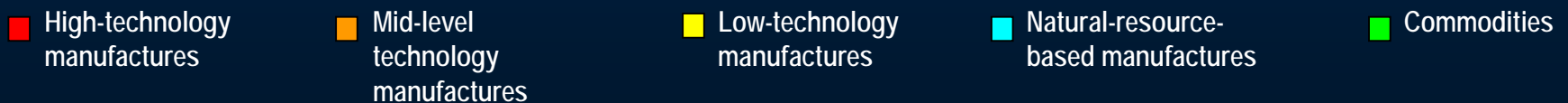
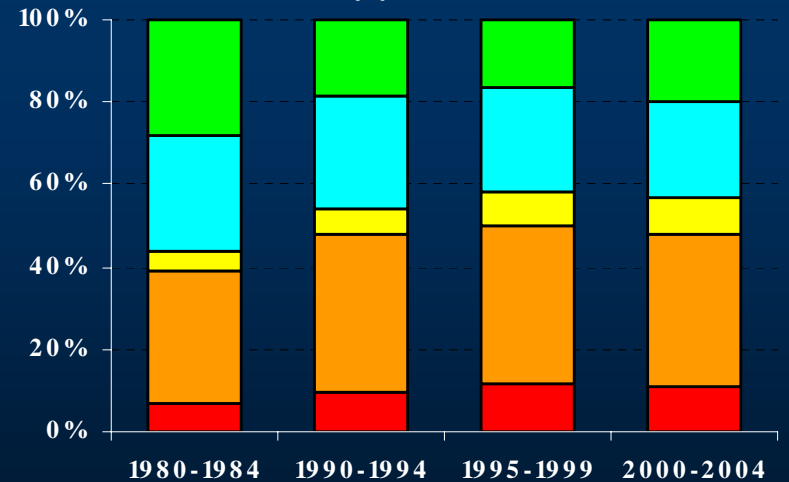
(b) New Zealand



(c) Malaysia



(d) Canada



The largest difference appears to lie in innovation (resources and efficiency)

	Patents granted by USPTO	Patents granted by USPTO per million inhabitants	Total spending on R&D as a % of GDP	Business R&D spending as a % of total spending	Effectiveness of R&D spending (cost per patent in US\$ thousands)
Argentina	70	1.8	0.4	29	7.6
Brazil	180	1.0	1.1	40	25.8
Chile	15	1.0	0.5	35	36.4
Colombia	11	0.3	0.2	18	9.7
Costa Rica	10	2.5	0.2	23	5.2
Mexico	92	0.9	0.4	31	28.2
G-7	23152	153	2.2		
Australia	1047	53	1.5	48	5.8
New Zealand	165	41	1.0	37	5.0
Canada	3893	123	1.9	55	4.1
Sweden	1629	182	4.6	74	7.4
Norway	279	61	1.6	57	12.2
Finland	944	181	3.4	70	6.0
Republic of Korea	4132	86	3.0	76	3.9
China	424	0.3	1.1	62	43.9

Note: refers to 2003 or latest year available

Source: World Bank Knowledge Assessment Methodology (KAM) and World Investment Report (2005)

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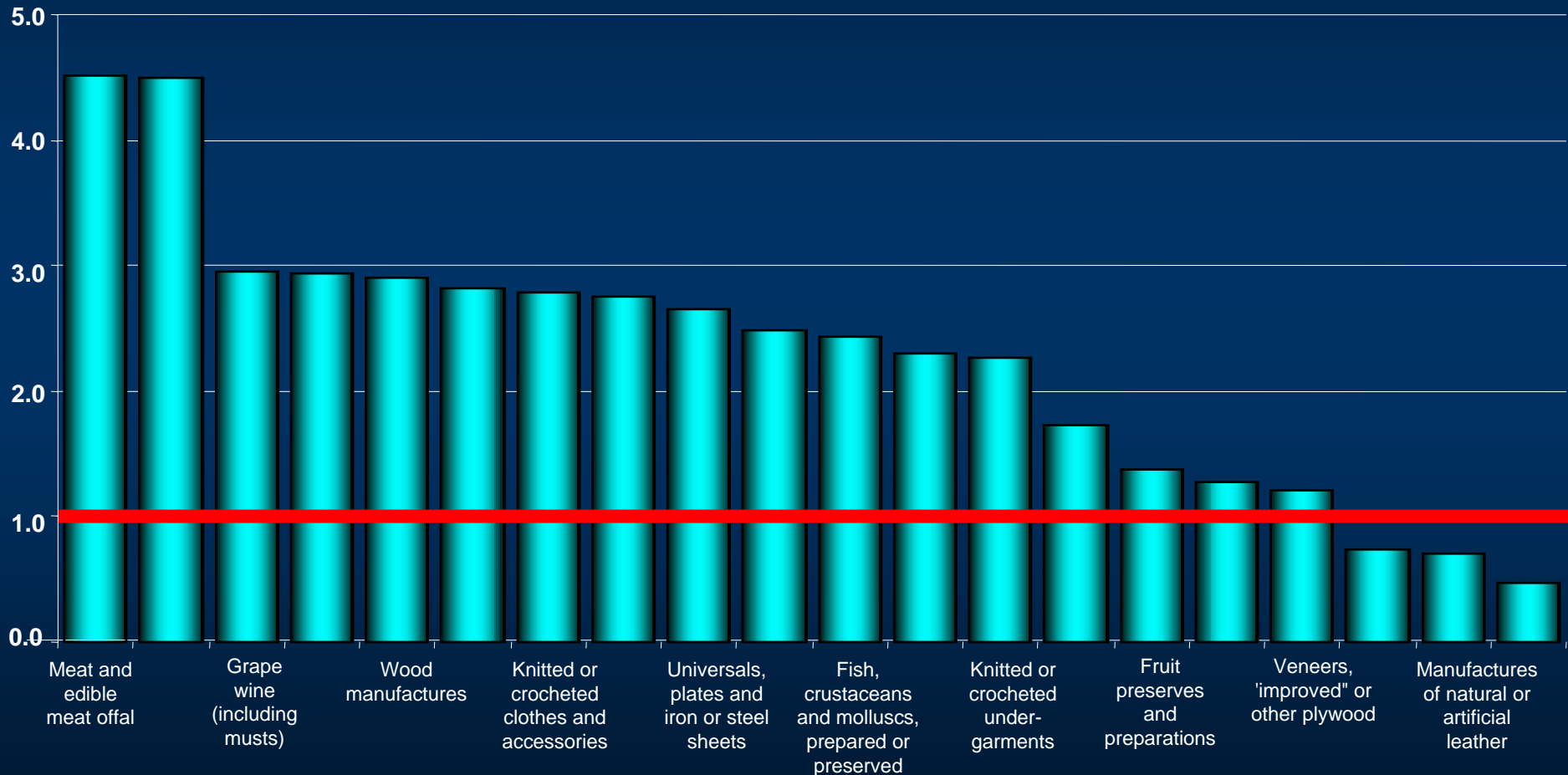
	Patents granted by USPTO	Patents granted by USPTO per million inhabitants	Total spending on R&D as a % of GDP	Business R&D spending as a % of total	Share of TNCs in % of business R&D
Argentina	70	1.8	0.4	29	23
Brazil	180	1.0	1.1	40	48
Chile	15	1.0	0.5	35	4
Colombia	11	0.3	0.2	18	
Costa Rica	10	2.5	0.2	23	
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New Zealand	165	41	1.0	37	
Canada	3893	123	1.9	55	35
Sweden	1629	182	4.6	74	45
Norway	279	61	1.6	57	
Finland	944	181	3.4	70	15
Republic of Korea	4132	86	3.0	76	2
China	424	0.3	1.1	62	24
Malaysia	63	3	0.5		

Note: refers to 2003 or latest year available

Source: World Bank Knowledge Assessment Methodology (KAM) and World Investment Report (2005)

... and in adding value

Ratio of export unit value (3 highest among *successful* countries versus 3 highest in LAC)

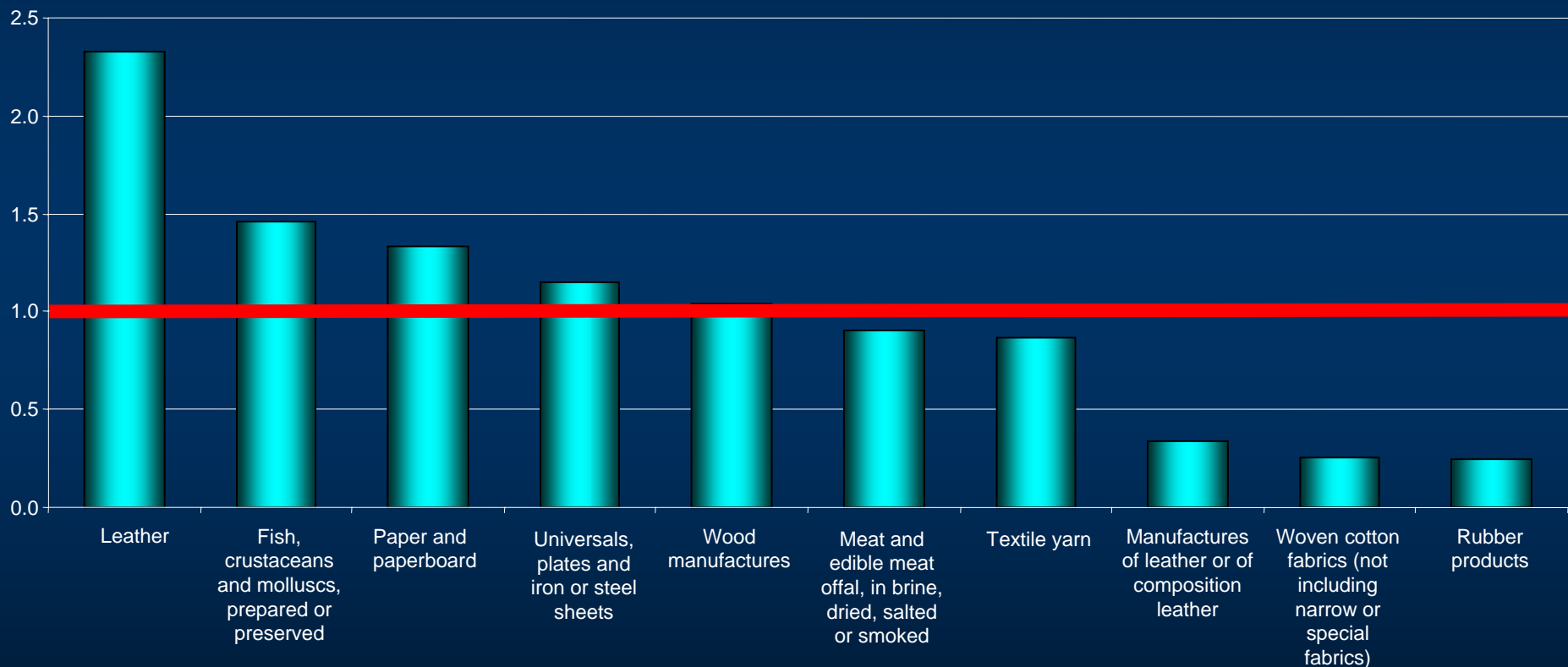


Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Note: Countries considered to be successful include Australia, Canada, China, France, India, Italy and the Nordic nations

Smaller differences vis-à-vis China and India

Ratio of export unit value (China and India versus two highest in LAC)



In summary...

- ❖ **Although there is no clear link between trade liberalization and growth, there seems to be a link between export growth and GDP growth.**
- ❖ **Exporting high- or mid-technology goods appears to be more conducive to growth, but growth is not an automatic outcome.**
- ❖ **There are examples of successful countries that have not specialized in high and mid-technology goods.**
- ❖ **A common pattern is that successful countries' exports provide an engine of growth, creating *domestic linkages* and *generating new technologies or processes*.**
- ❖ **Importance of policies that provide incentives for innovation in a broad sense: capacity to adopt, but also to adapt, and then to create.**

Structure of presentation

- (1) Trade and growth: what do we know?**
- (2) Export dynamics and patterns of integration into external trade flows**

Productive development policies

Why are they necessary?

- ❖ **The main key to growth is the capacity to generate new dynamic activities**
- ❖ **Information and coordination failures hinder this task**
- ❖ **Heterogeneity in production generates a “three-speed” pattern that has to be addressed with active, differentiated policies**
- ❖ **Trade growth and FDI can contribute to economic growth, but there are no automatic links**
- ❖ **Successful countries’ experiences point up the benefits of using a variety of productive development policies over time**

Productive development policies

What are the objectives of a productive development policy?

- ❖ To create a growth-friendly macroeconomic and institutional environment
- ❖ To improve patterns of integration into external markets (rewarding innovators)
- ❖ To level the playing field (given productive heterogeneity) in order to raise average productivity
 - reduce the informal sector
 - modernize SMEs (importance of clusters)
- ❖ To create the conditions for innovation in a broad sense and for increasing the *complementarity* of the production structure

Productive development policies: characteristics

(1) They must be different from past policies.

Differences with respect to policies used in the past

- ❖ Lower levels of protection.
- ❖ Scarcity of resources makes it necessary:
 - to limit the amount and time of subsidies;
 - to focus policy efforts.
- ❖ Multilateral and bilateral agreements impose new constraints.
- ❖ New institutions: transparency, evaluation, continuity of staff and upgrading of State role.
- ❖ Need to establish clear performance criteria.

Productive development policies: characteristics

- (1) They must be different from past policies.
- (2) A stable and competitive exchange rate is key to “discovering” new activities in the tradable sector.
- (3) *Horizontal* policies should be combined with *selective* ones.
- (4) Selective policies should focus on new activities with potential for stimulating the productive structure.

Selection criteria

- ❖ New export activities
- ❖ Activities related to goods with static advantages (need for targeting): backward, forward and lateral linkages (biotechnology, design, marketing)
- ❖ New activities not necessarily associated with the region's comparative advantages but with potential dynamic effects (selectivity)
- ❖ Activities that generate externalities through complementarities with the production system (infrastructure, services, financing, job training)
- ❖ Innovation in a broad sense (adopting, adapting and creating)

Selection criteria

- ❖ New export activities
- ❖ Activities related to goods with static advantages (need for targeting): backward, forward and lateral linkages (biotechnology, design, marketing)
- ❖ New activities which ought to have dynamic effects
- ❖ Activities that generate externalities through complementarities with the production system (infrastructure, services, job training)
- ❖ Innovation in a broad sense (adopting, adapting and creating)
 - Special incentives for FDI: with foreseeable externalities only
 - Scheme of subsidies for R&D should reward private-sector engagement
 - Avoid high tariffs on capital goods

Productive development policies: characteristics

- (1) They have to be different from past policies.**
- (2) A stable and competitive exchange rate is key to “discovering” new activities in the tradable sector.**
- (3) *Horizontal* policies should be combined with *selective* ones.**
- (4) Selective policies should focus on new activities with potential dynamic effects on the production structure.**
- (5) The public sector should provide leadership in defining strategies but should work closely with the private sector.**
- (6) Design of a national innovation system with proper incentives and increasing private-sector engagement.**
- (7) Human capital formation is an essential requirement for any development policy, but particularly for a strategy intended to increase innovation and encourage linkages of export sectors and of FDI.**
- (8) There is no single set of rules given the differences among countries (among them the institutional capacity).**

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