Manganese Alloys: Consumption Trends By Grade And Production Capacities

IMnI Conference

Vincent Trelut

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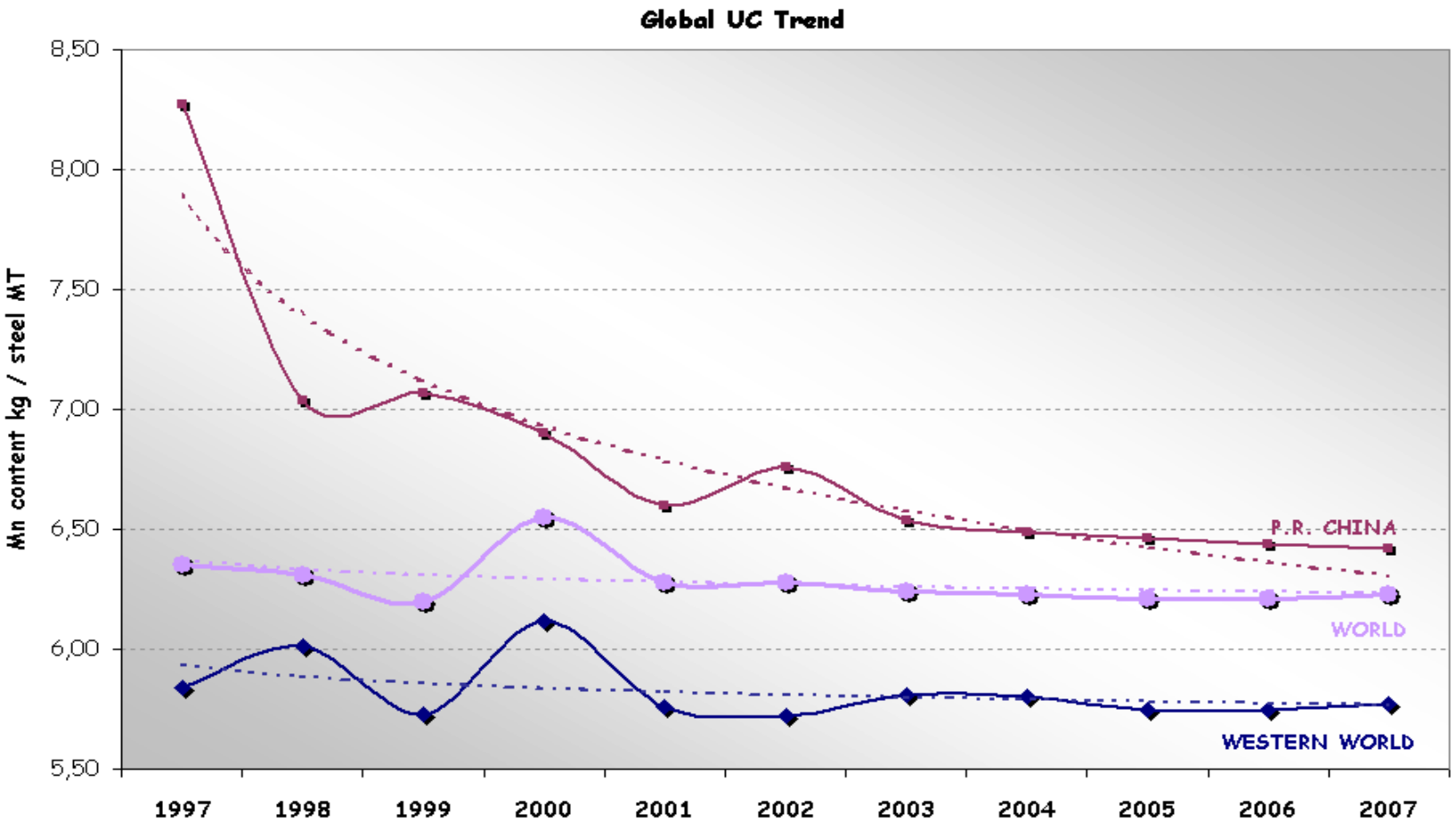
Shanghai

A Stagnant Global Mn Unit Consumption



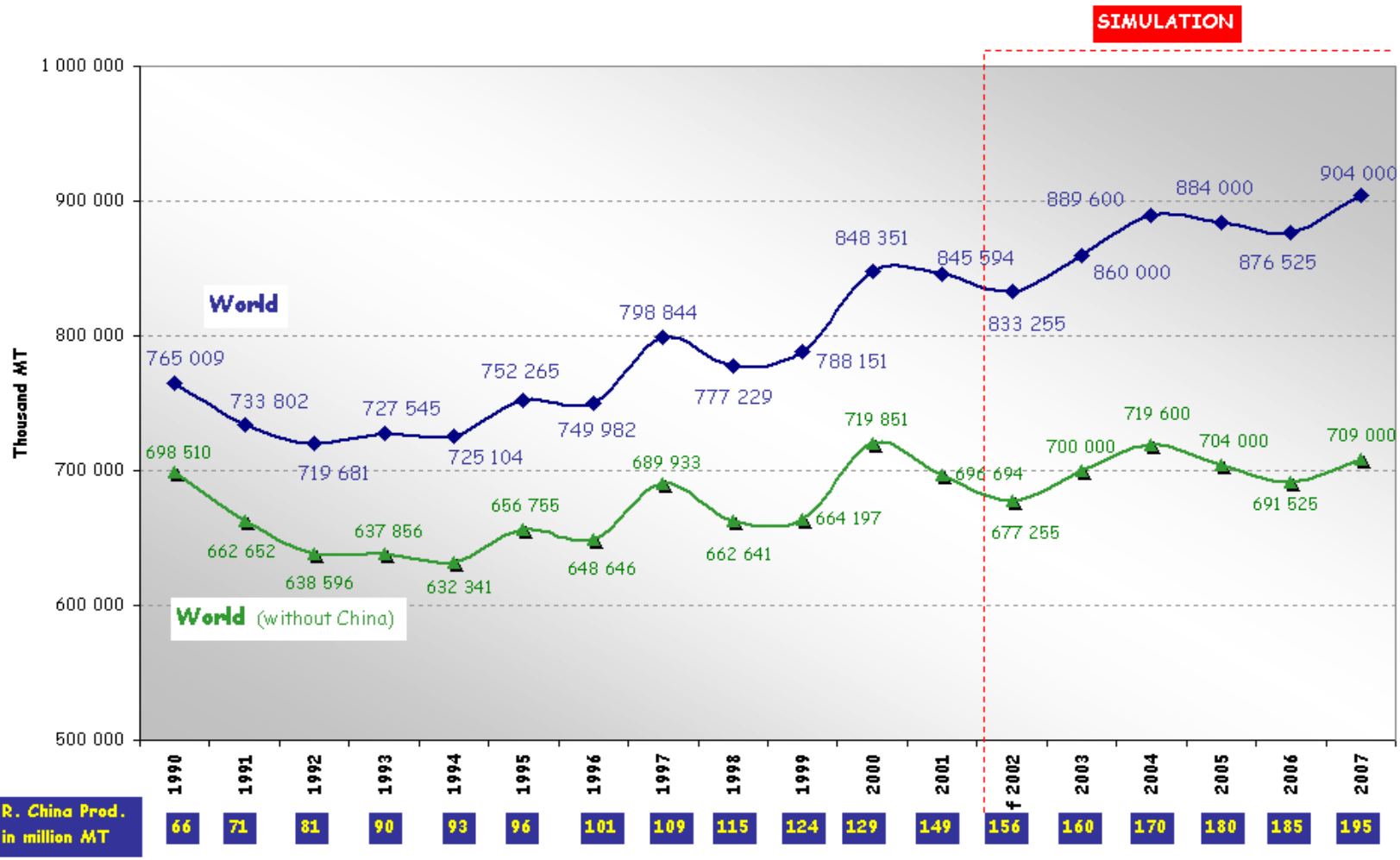
Source: Eramet Comilog

Mn Units Consumption Factors

Economic Perception Of Alloys Cost	
Better Quality Control - Less Recycling	
Growth Of Continuous Casting	
Increased Share Of Stainless Steel	
New Thin Slab Casting Units	

Source: Eramet Comilog - Magetex

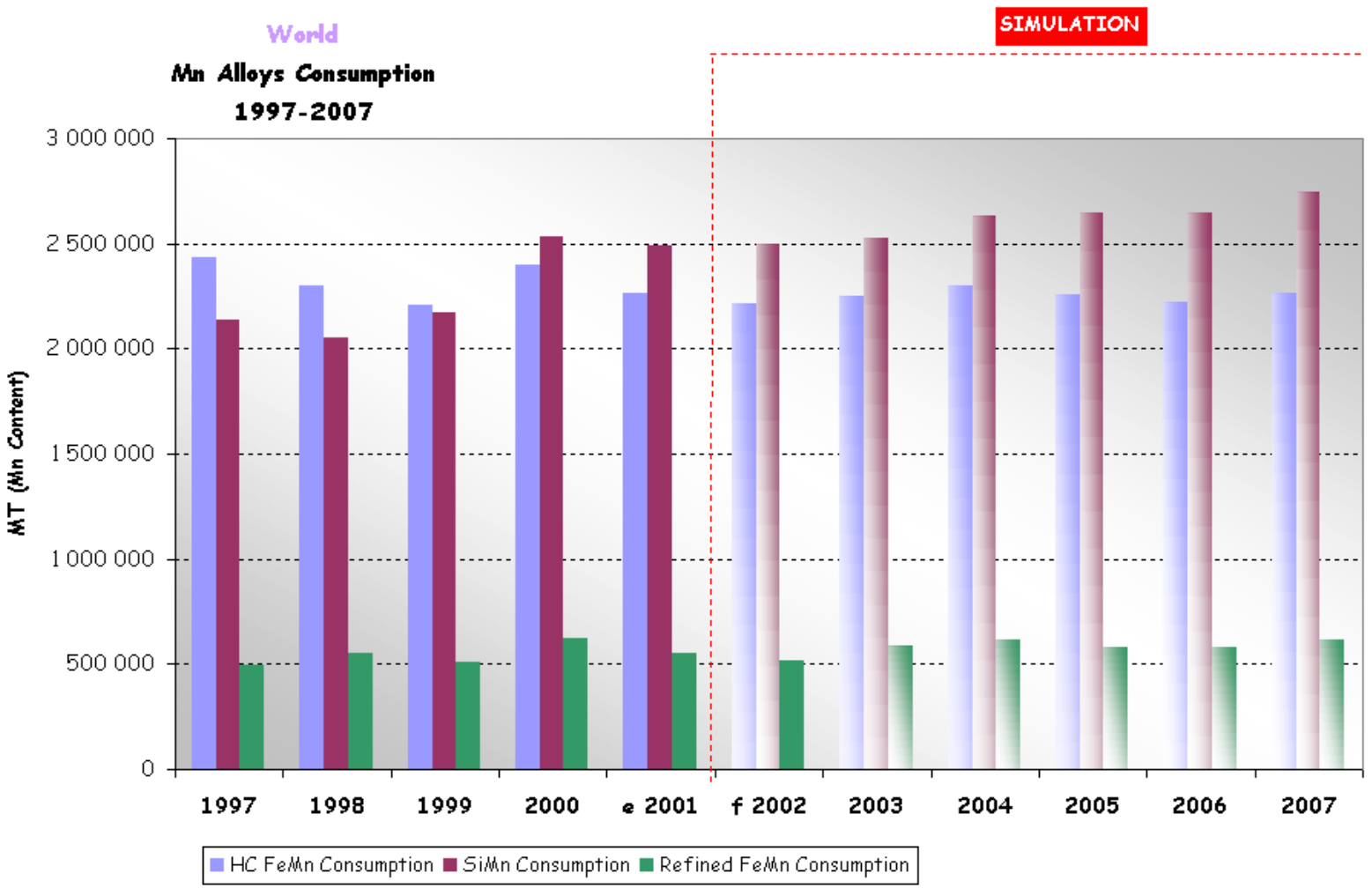
World Crude Steel Production



Source: Eramet Comilog - IISI

World - Mn Alloys Consumption:

SiMn growing, HC & Refined FeMn Demand Stable Over The Next Cycle



Source: Eramet Comilog

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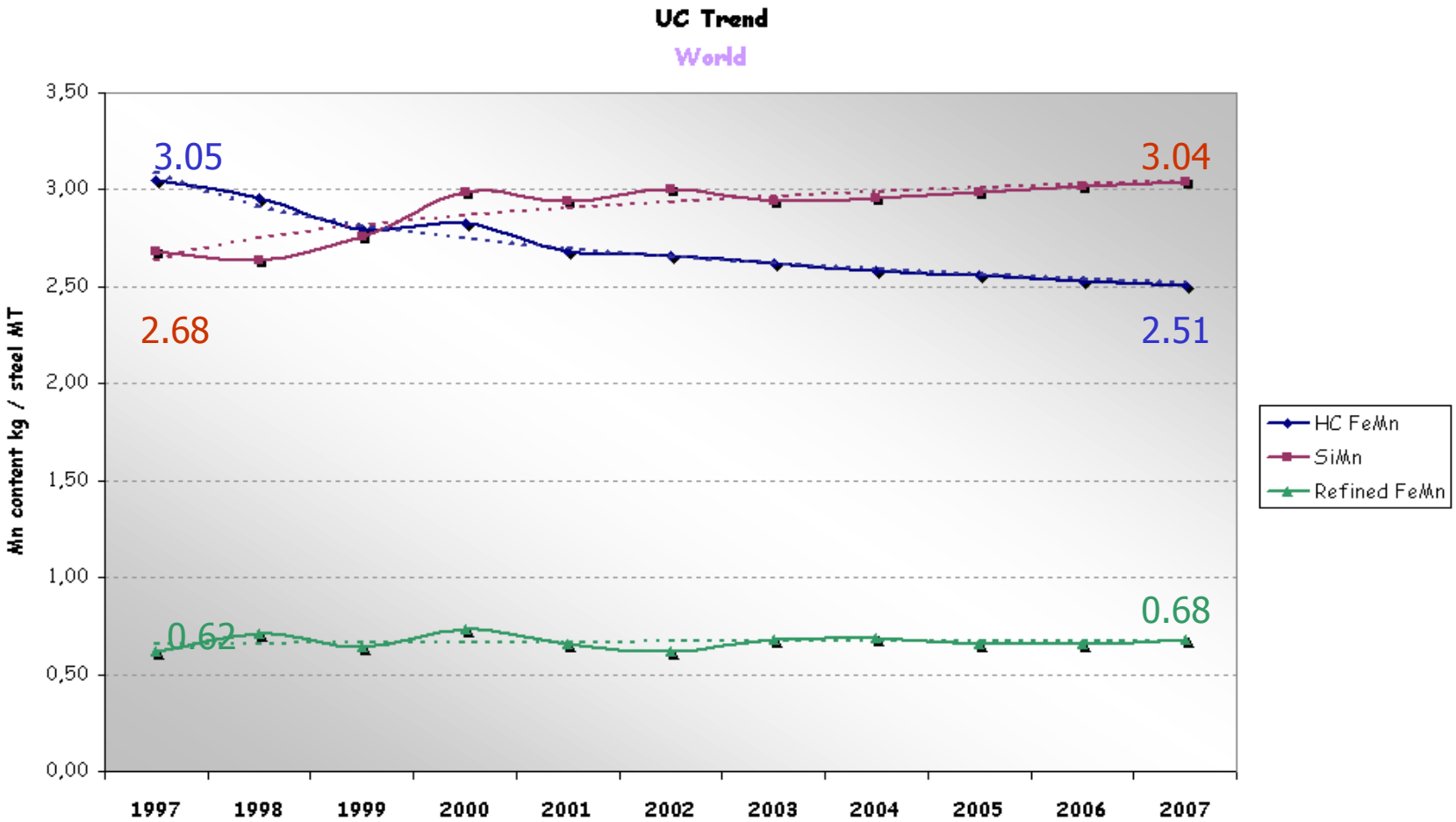
Mn Alloys UC - **World**: HC FeMn Decreasing
SiMn Increasing
Refined FeMn Slightly Increasing



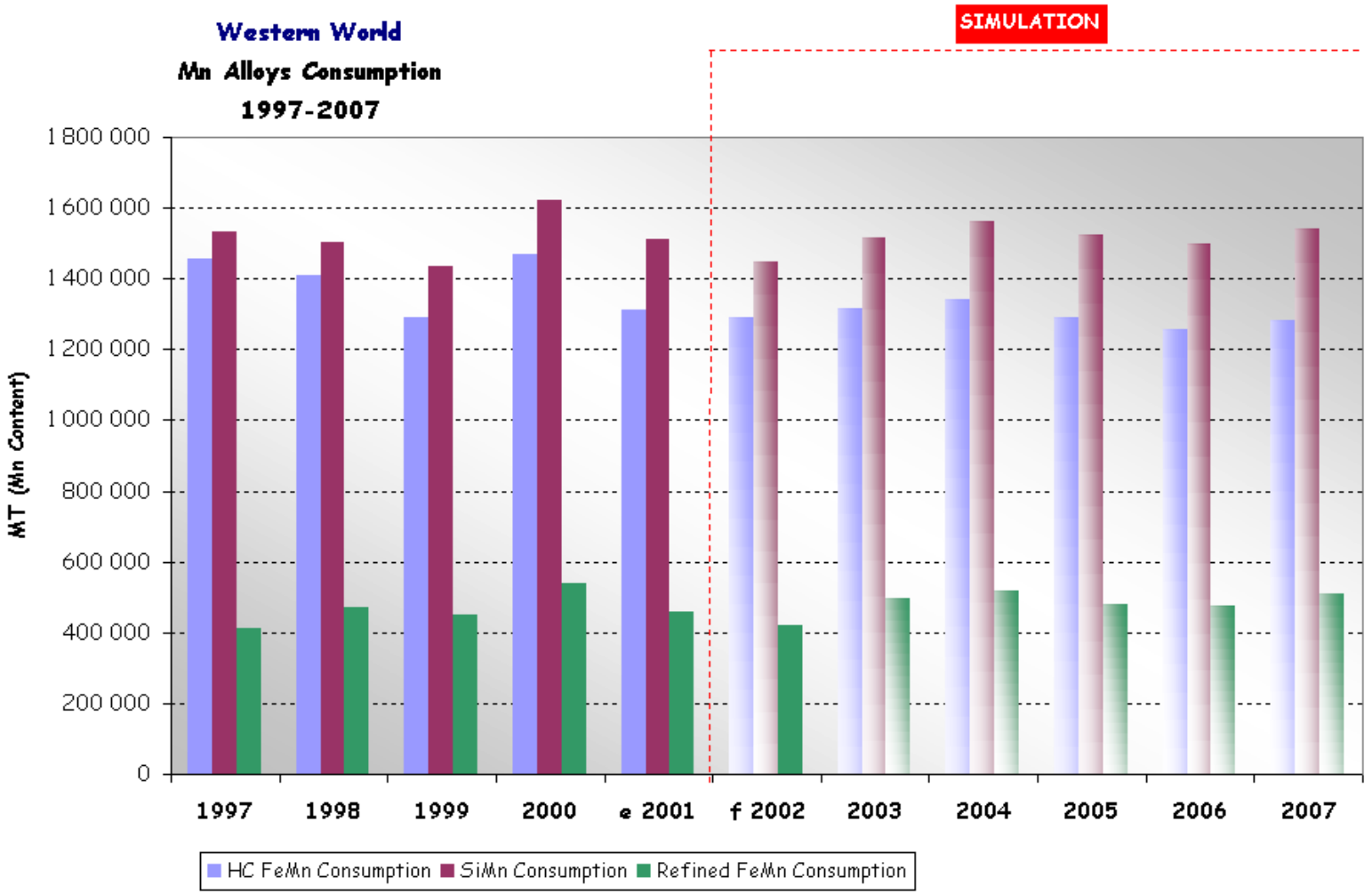
Source: Eramet Comilog

FeMn ⇒ SiMn Switch

Growth Of Flat Products In The CIS & P.R. China	FeMn ↑
Relative Growth Of EAF Steel Mills	SiMn ↑
SiMn Is More Easily Made From Low Grade Ore	SiMn ↑
Relative Price Of FeMn/SiMn/FeSi	SiMn ↑ FeMn ↓
Historical Situation/Habits	

Source: Eramet Comilog - Magetex

Western World - Mn Alloys Consumption:
Stagnant Average Demand For All Alloys Over The Next Cycle



Source: Eramet Comilog

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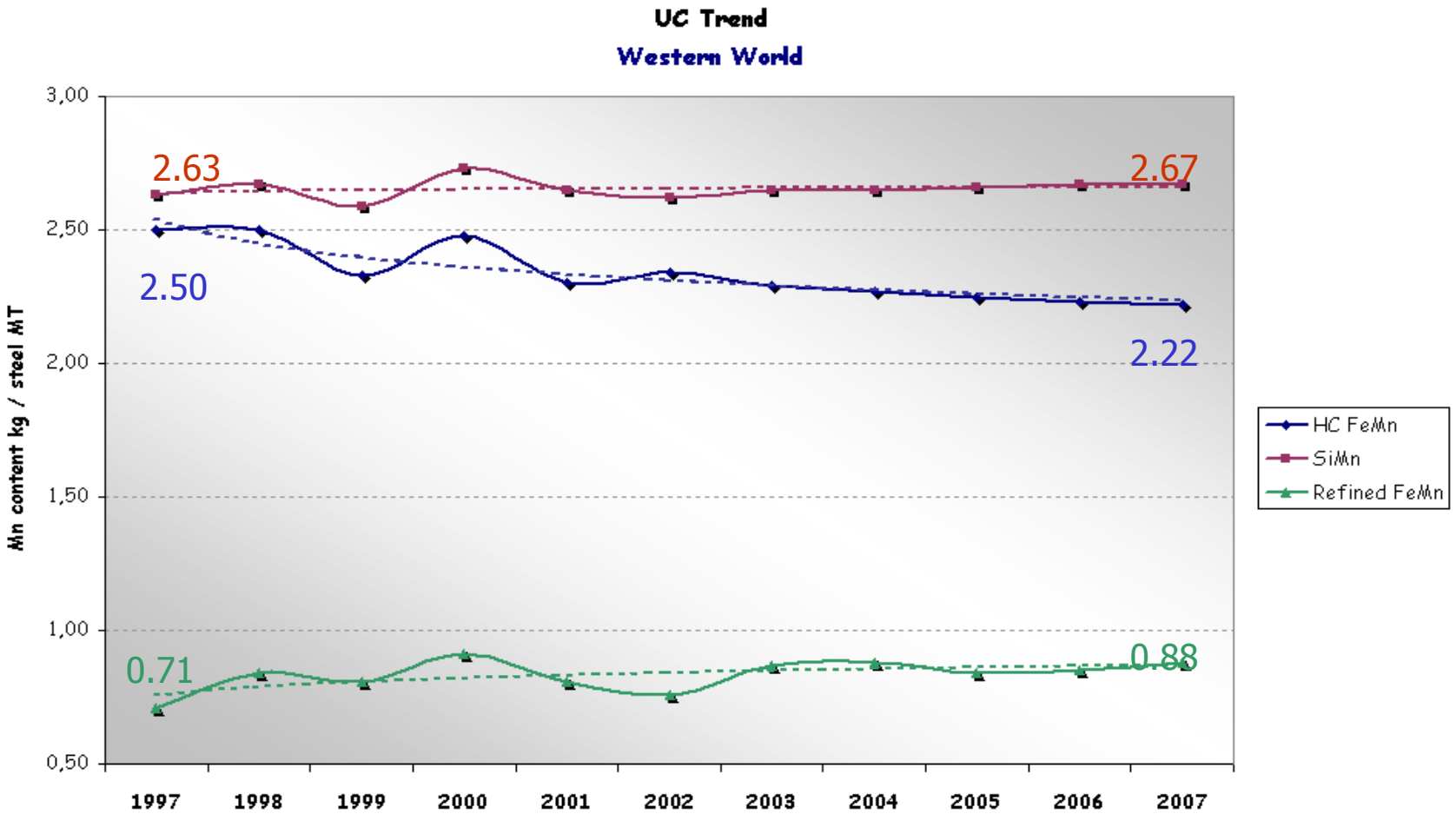
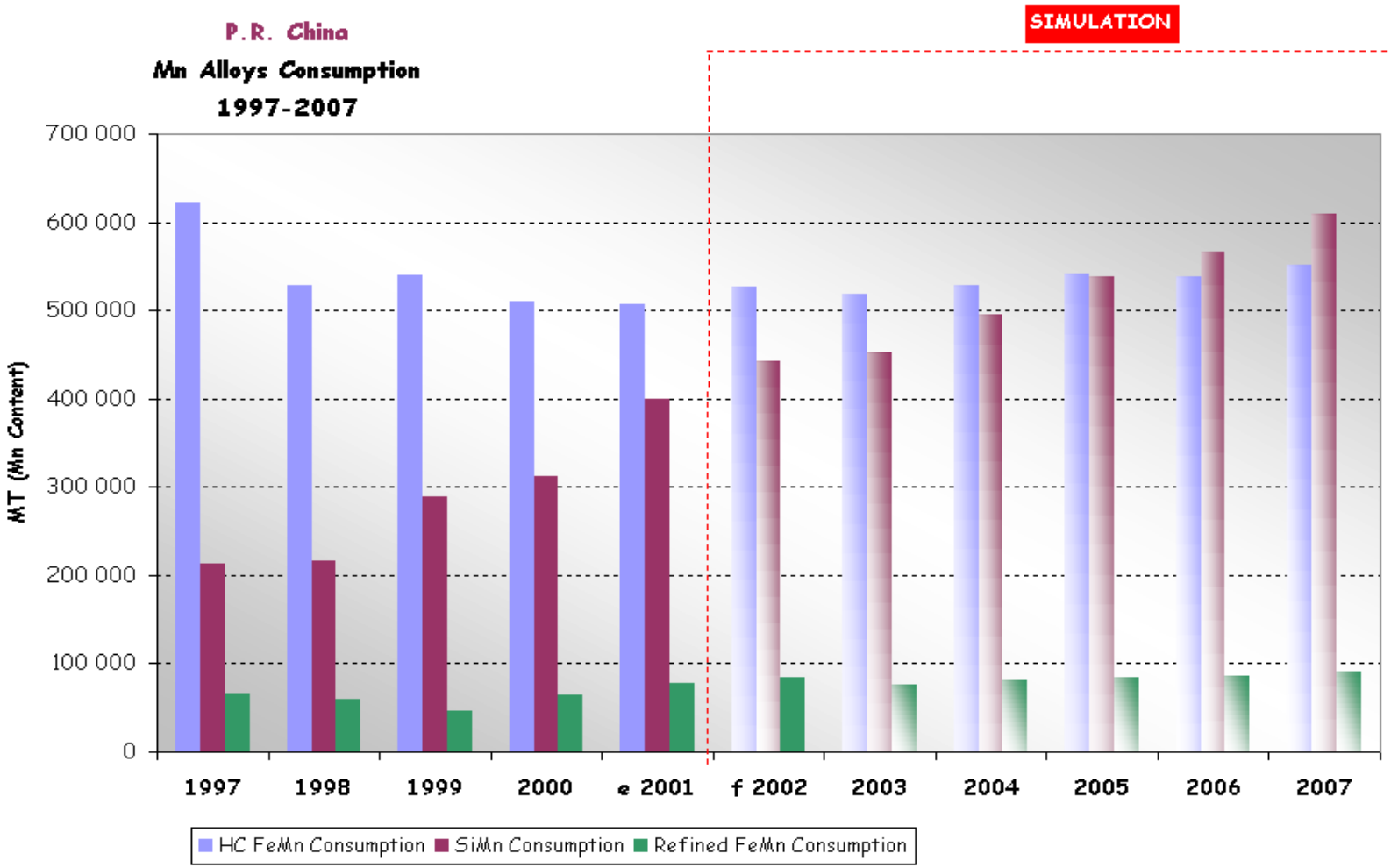
Mn Alloys Unit Consumption - **Western World**: HC FeMn Decreasing /SiMn Increasing / Refined FeMn Increasing



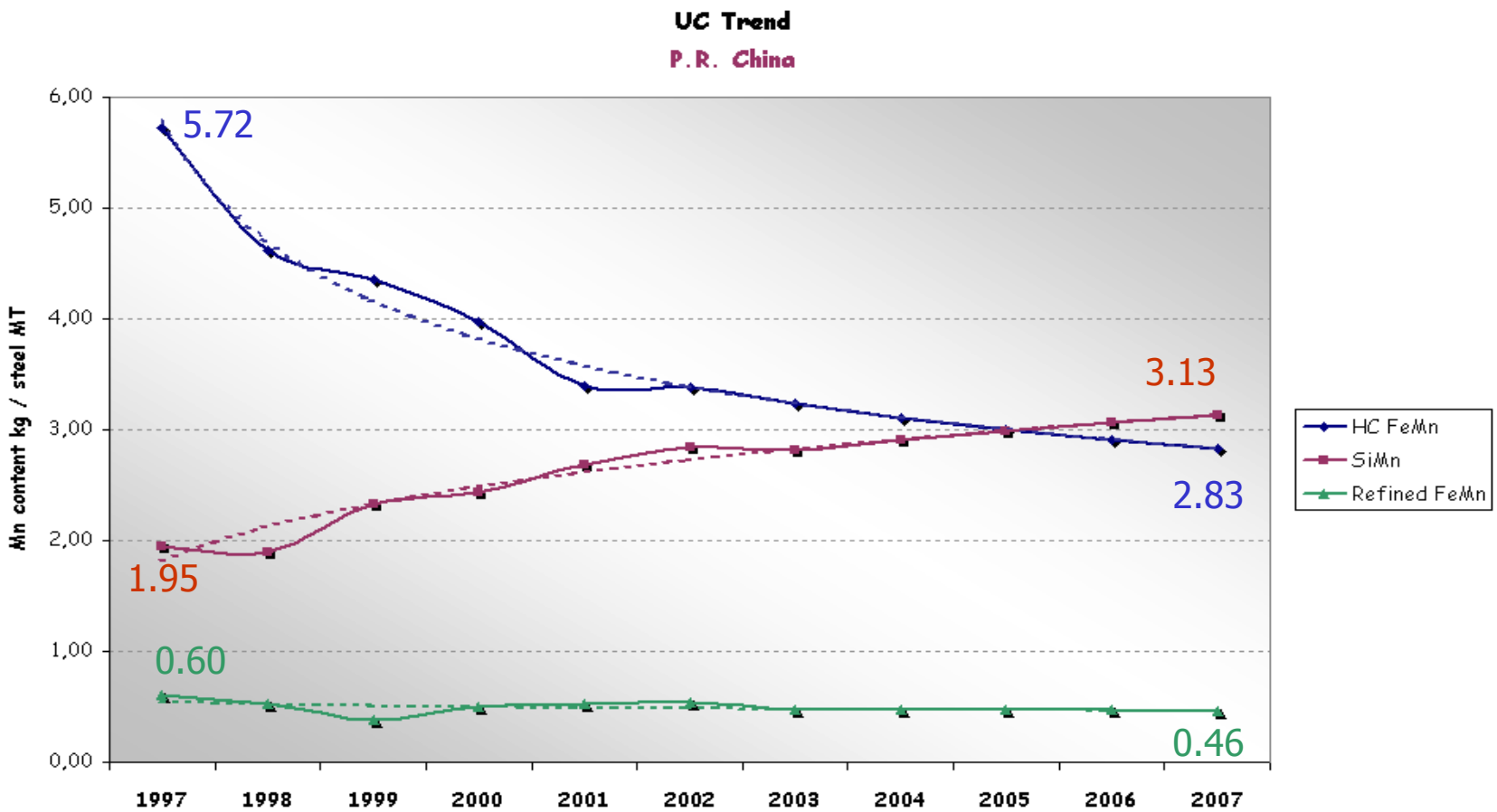
Source: Eramet Comilog

P.R. China - Mn Alloys Consumption: A Sharp Contrast Between SiMn And HC FeMn



Source: Eramet Comilog

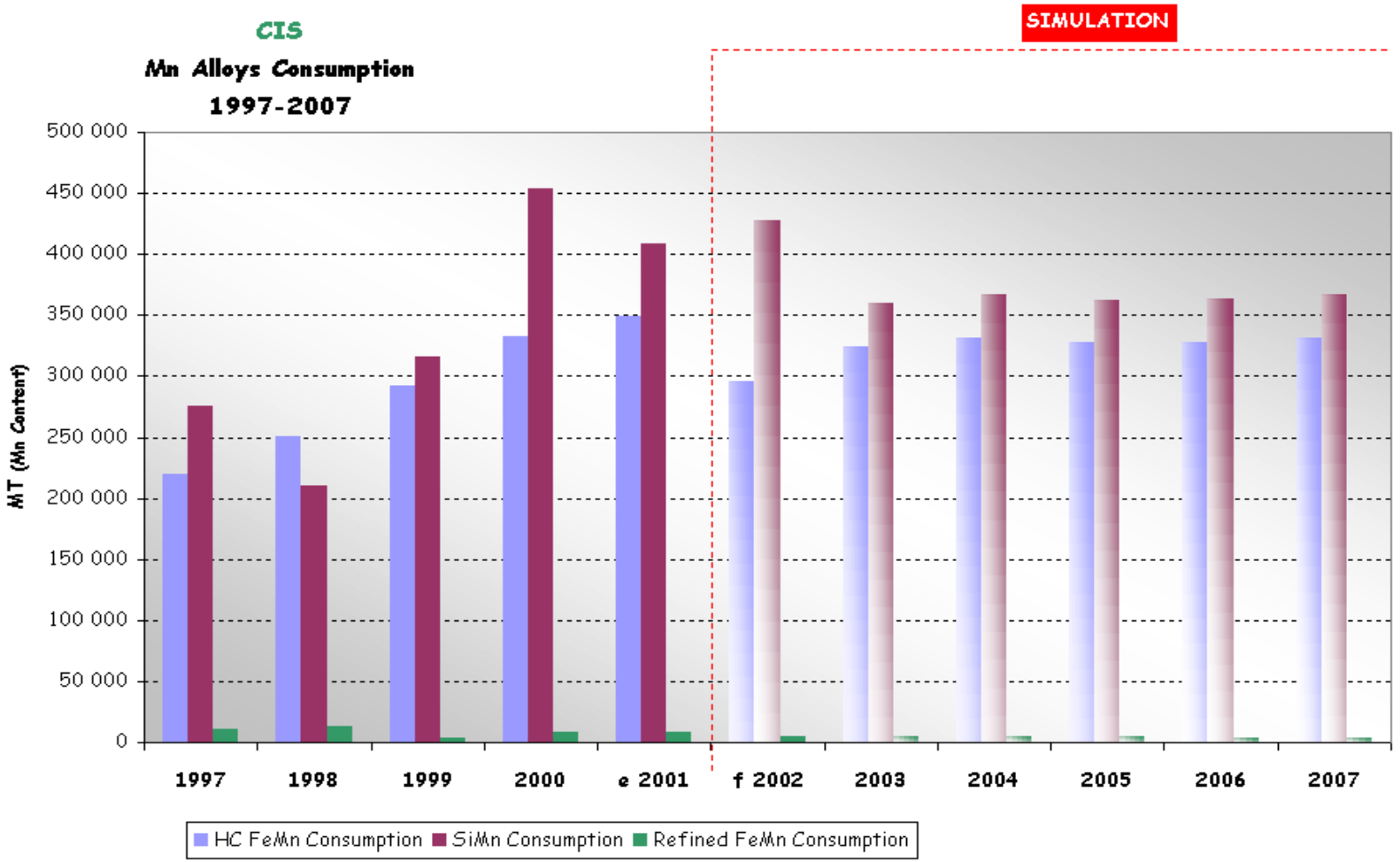
Mn Alloys Unit Consumption – P.R China: HC FeMn Decreasing /SiMn Increasing / Refined FeMn Decreasing



Source: Eramet Comilog

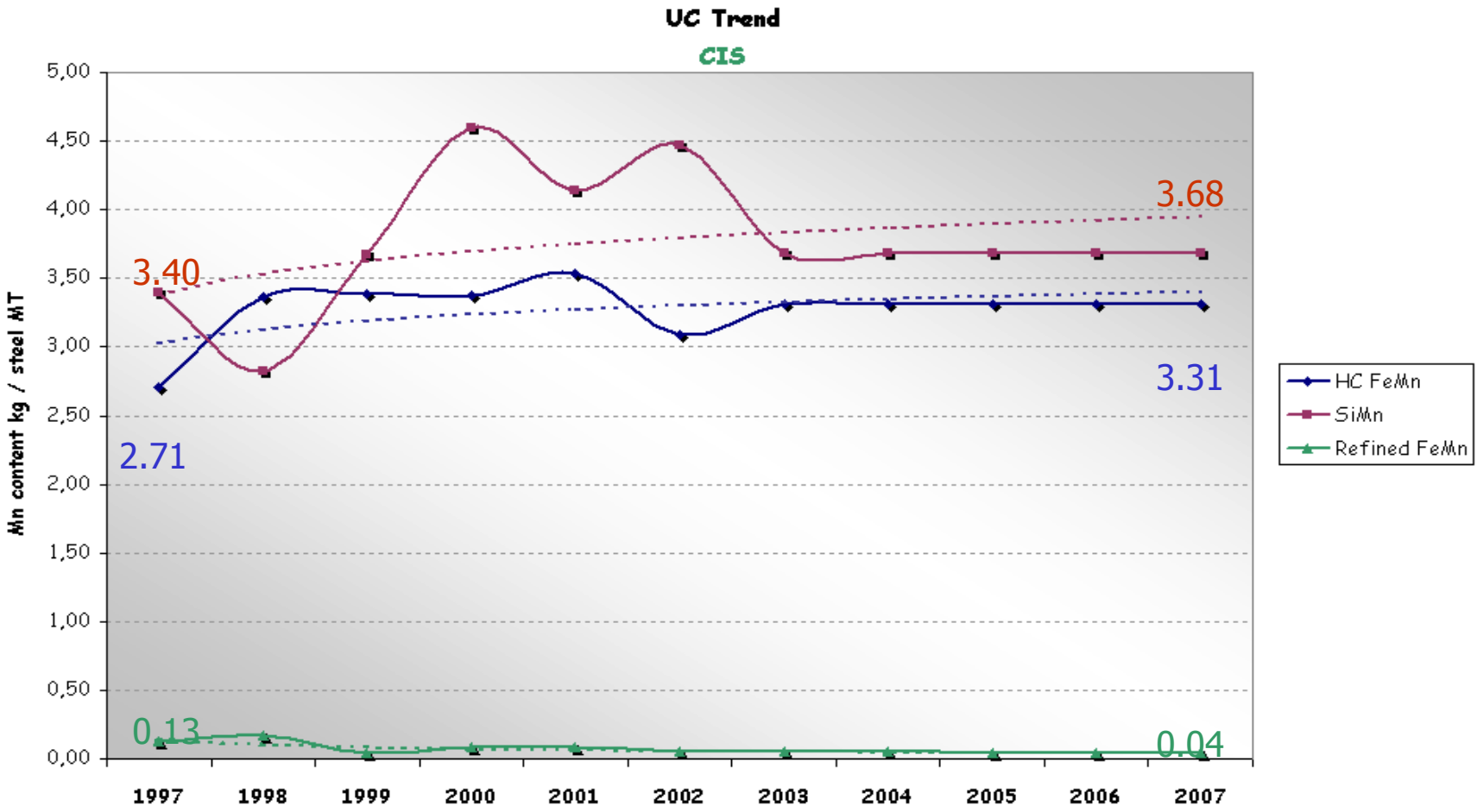
CIS - Mn Alloys Consumption:

After A Big Increase In 2000, Stable Mn Alloy Demand Over The Next Cycle ?



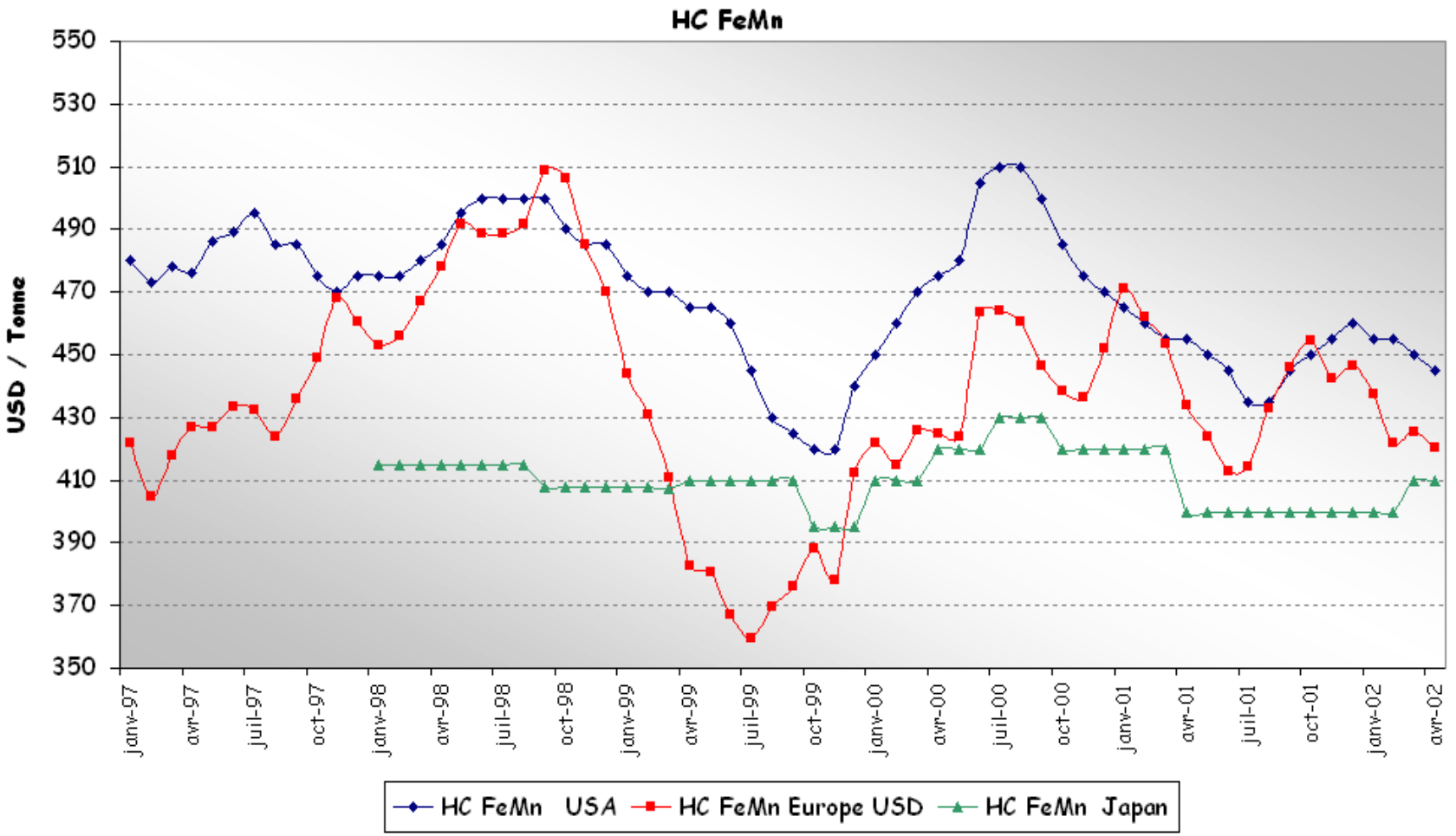
Source: Eramet Comilog

Mn Alloys Unit Consumption – CIS: HC FeMn Increasing /SiMn Increasing / Refined FeMn Decreasing ?



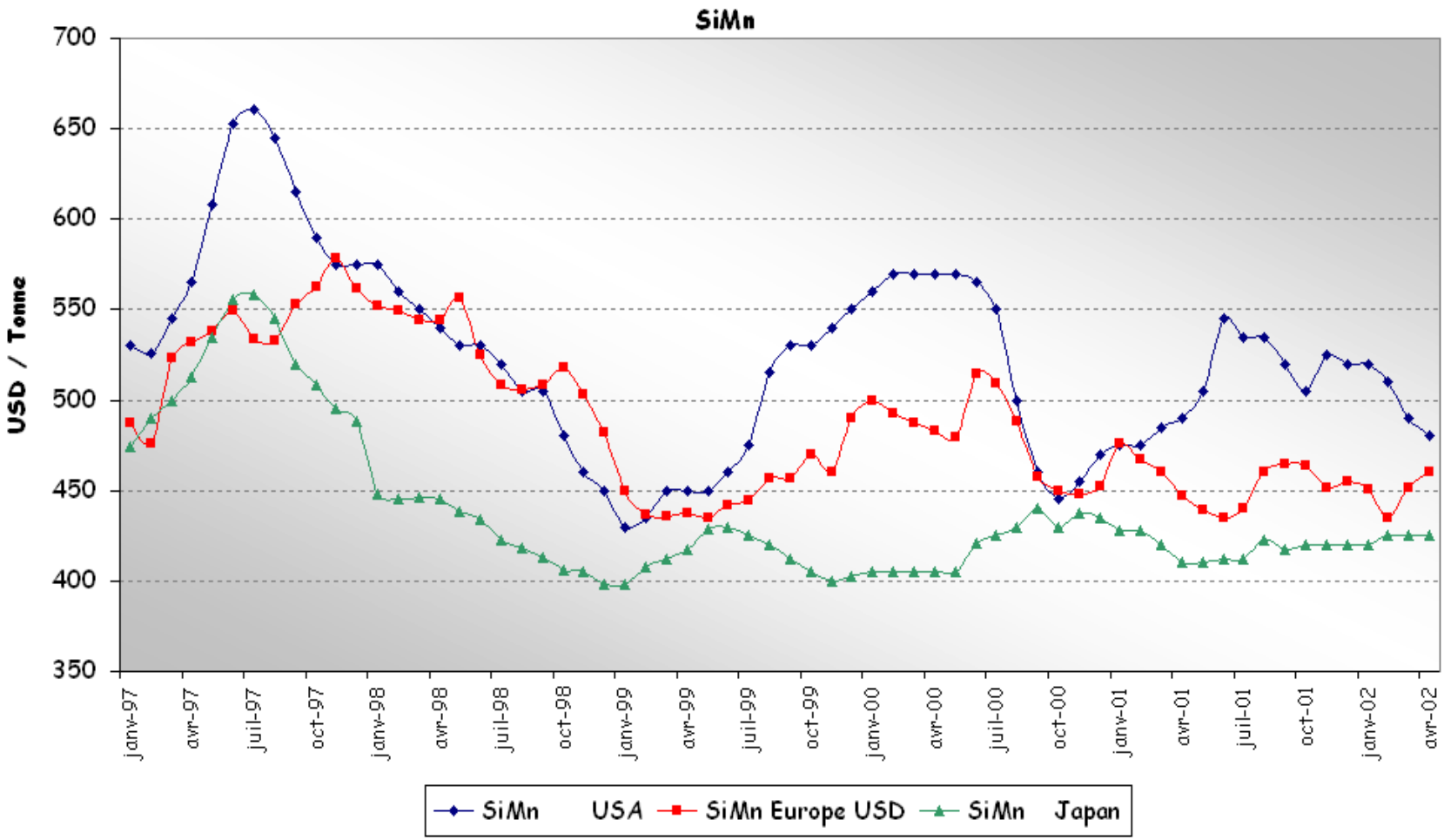
Source: Eramet Comilog

HC FeMn Prices: Stagnation At Low Levels Since 1997



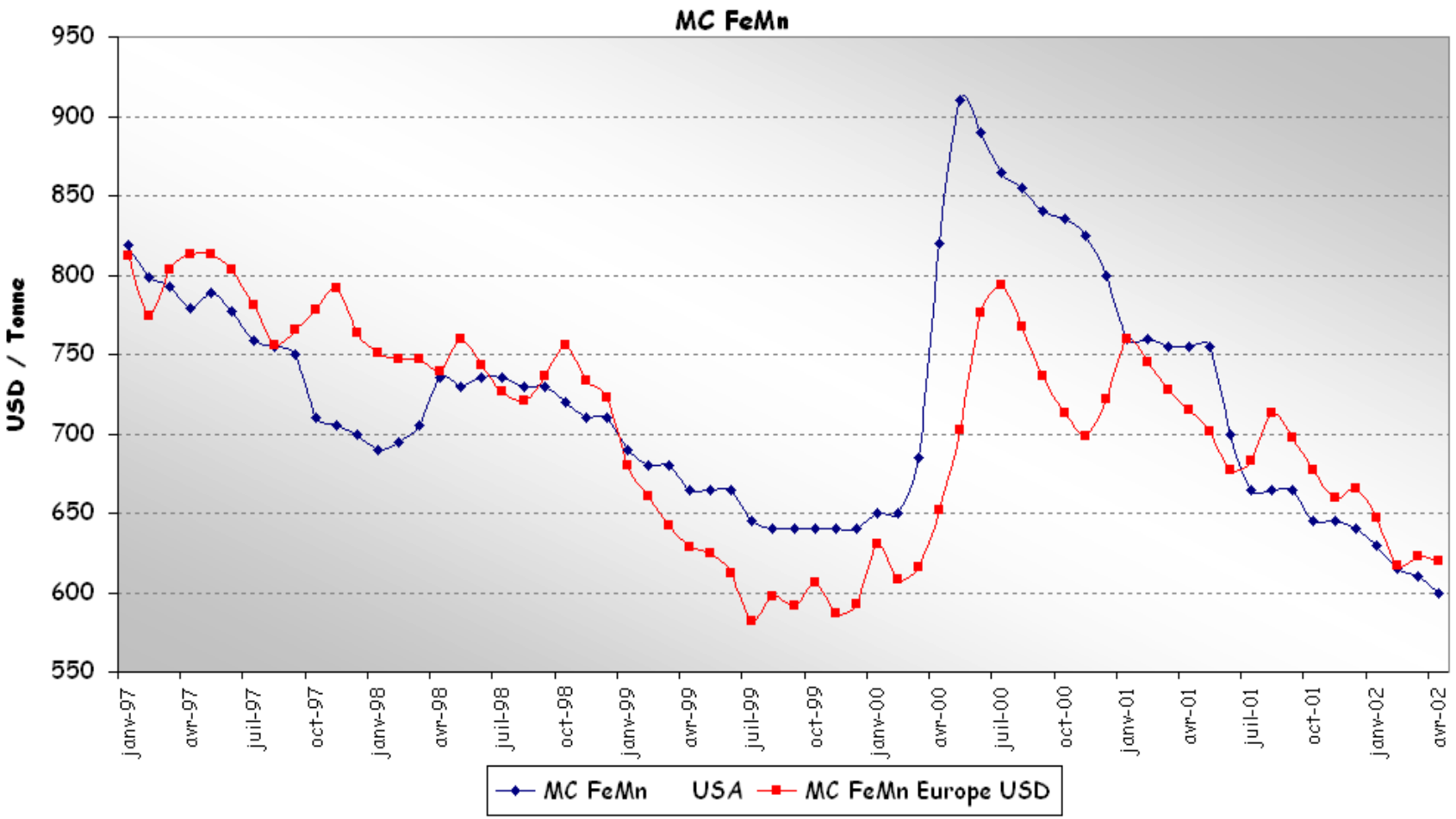
Source: CRU Bulk Ferroalloys Monitor

SiMn Prices: Decreasing Trend



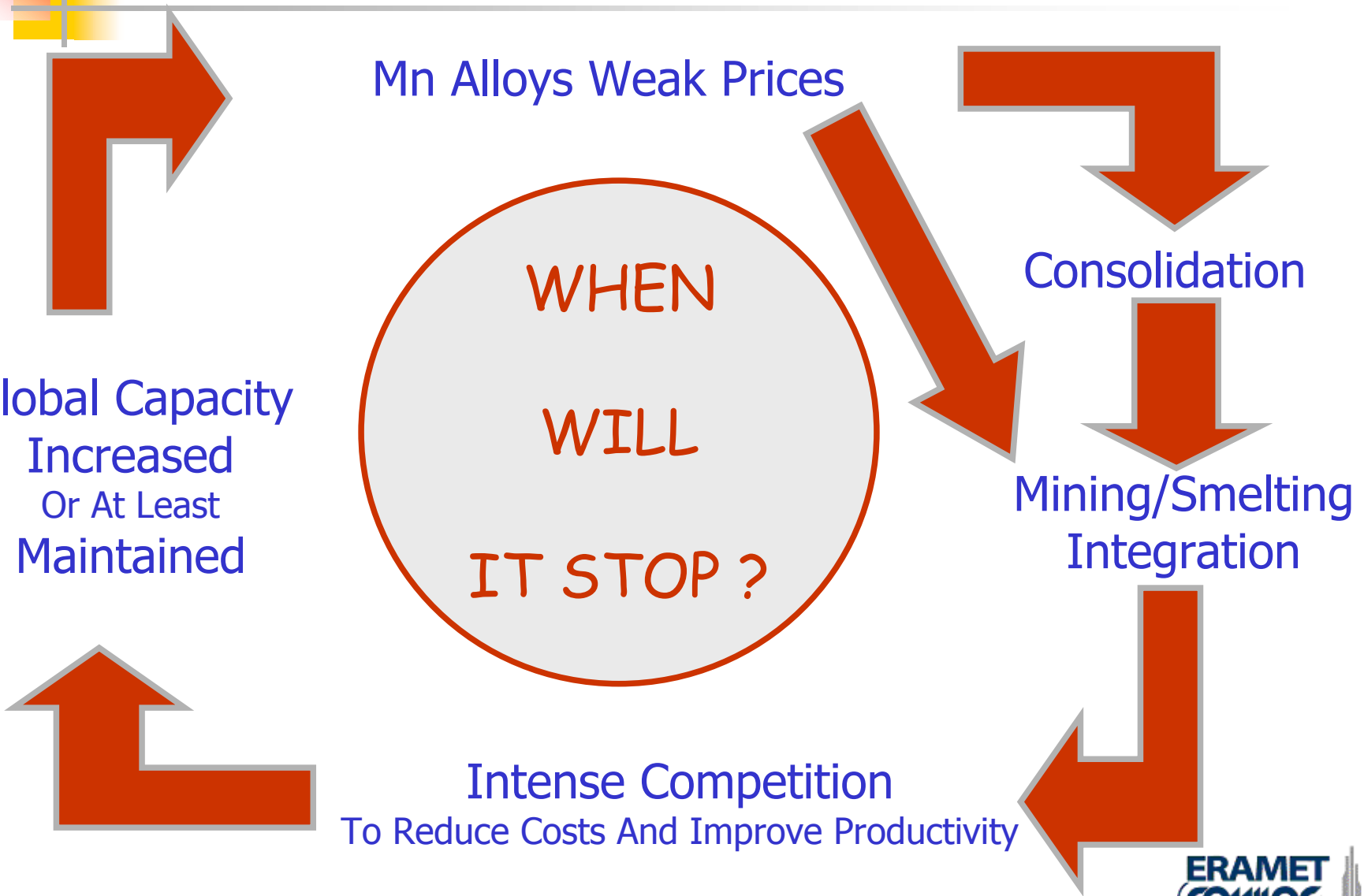
Source: CRU Bulk Ferroalloys Monitor

Refined FeMn Prices: Prices Under Pressure Since Mid-2000 After A Short-Lived Recovery



Source: CRU Bulk Ferroalloys Monitor

Industry Response



Source: Eramet Comilog

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Casualties In The Mn Business: Plant or Mine Closures

	Ore	SiMn	HC FeMn	Refined FeMn
Huta Pokoj since 1999			100 kT	
Huta Laziska since December 2001		40 kT		
Kremikovtsi since 2002			10 kT	
Skopje since 2001		10 kT	30 kT	
Manganesos Atacama since 2002		7 kT	1 kT	
Grassi since 1999		30 kT	10 kT	
Fornileghe since 2001		25 kT	5 kT	20 kT
Comilog Italia since 2001		40 kT		
Sadaci since 1999		10 kT	15 kT	
Autlan 2 plants idled in 2001		80 kT		
Xiangtan since 2001			90 kT	
Liaoyang since 2001		40 kT	40 kT	10 kT
Purity Mn since 1998	85 kT			
… /…	…	…	…	…
Partial TOTAL	85 kT	282 kT	301 kT	30 kT

Source: Eramet Comilog

Demand/Capacity - World: Structural Excess Of Capacity

in '000 MT	Capacity 2001	Demand 2001	Rate of Overcapacity 2001	Demand 2004 Peak	Rate of Overcapacity 2004
HC FeMn	4 370	3 125	40%	3 160	38%
SiMn	5 240	3 700	42%	3 900	34%
MC/LC FeMn	955	695	37%	770	24%

Source: Eramet Comilog

Demand/Capacity – P.R. China: A Huge Excess In All Alloys

in '000 MT	Capacity 2001	Demand 2001	Rate of Overcapacity 2001	Demand 2004	Rate of Overcapacity 2004
HC FeMn	1 060	780	36%	815	30%
SiMn	1 500	635	140%	785	91%
MC/LC FeMn	150	105	43%	110	36%

Source: Eramet Comilog

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Demand/Capacity – CIS: A Huge Excess As Well !

in '000 MT	Capacity 2001	Demand 2001	Rate of Overcapacity 2001	Demand 2004	Rate of Overcapacity 2004
HC FeMn	680	455	49%	430	58%
SiMn	1 335	560	138%	500	167%
MC/LC FeMn	30	10	200%	6	400%

Source: Eramet Comilog

Demand/Capacity - Western World: Significant Problems In The FeMn Sector

in '000 MT	Capacity 2001	Demand 2001	Rate of Overcapacity 2001	Demand 2004 Peak	Rate of Overcapacity 2004
HC FeMn	2 255	1 730	30%	1 760	28%
SiMn	2 070	2 285	-10%	2 365	-12% [1]
MC/LC FeMn	760	570	33%	640	19%

[1]: Excluding potential new entrants (Highlander…)

Source: Eramet Comilog

Conclusion: The Choice Of The Mn Industry

Manganese In The « Same Boat » Together With Steel

Stagnant Demand
& Structural Overcapacity

Oversupply & Dumping

Prices Under
Downward Pressure
& Trade Frictions

Forced Rationalization
& Trade Barriers

Stagnant Demand
& Voluntary Rationalization

Balanced Market
& Reliable Service

Reasonable Prices
& Free Trade

Source: Eramet Comilog