SHIPPING IN AN EVER CHANGING ENVIRONMENT

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Plus ça change plus c'est la même chose

and

"The This Time its Different Syndrome"

(Reinhart-Rogoff)

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BASIC MARKET PRINCIPLES

Economies are made up of people.

The law of supply and demand always works.

Markets will always work to lower costs and create more competitive products and services while providing reasonable returns to all participants. Expensive products or services will invariably fail.

Legislated inefficiencies distort market mechanisms producing a higher cost environment thus destroying productivity and jobs.

The modern world is a global market.

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BASIC PREMISES FOR SEABORNE TRADE

To sell you must produce or provide goods and services at prices others are willing to buy them at.

Countries aim for cost efficiency for their industries in order to promote growth and employment.

Input costs affect cost efficiency.

To prosper, shipping must provide, on average, cost efficient transport to receivers.

Shipyards are a "freight market destruction mechanism" for importing countries in order to maintain reasonable freight rates.

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FUNDAMENTAL ECONOMIC PARAMETERS OF SHIPPING

- When shipping **provides low transport cost services to the receivers**, it is profitable.
- **Cargoes will always be available for shipment at a price**. New, more cost and energy efficient ships will always be preferred.
- To be successful, all input costs of ship investments must be cost competitive. **A cost plus mentality and legislated inefficiencies are therefore inappropriate.**
- **Shipping is a variously cyclical, self correcting business**. Understanding the cyclicality of the freight market and ship value fluctuations is very important.
- **After any stimulus shipping eventually balances around a level at which all players are making reasonable returns.**

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COST EFFICIENCY OF SHIPPING

- Dry bulk shipping's cost efficiency improved about **33%** over the last 31 years through larger, more cost efficient ships. The average size of the fleet grew from **35.500 tdw** in 1981 to **70.600 tdw** in 2012.

- **To improve cost efficiency, ship sizes are constantly increasing**. All ship categories suffer bracket creep.

- **Parcel trade** in bigger bulk carriers improves cost competitiveness.

- **Smaller, more flexible ships attain a measure of cost efficiency by reducing the ballast leg (triangulation).**

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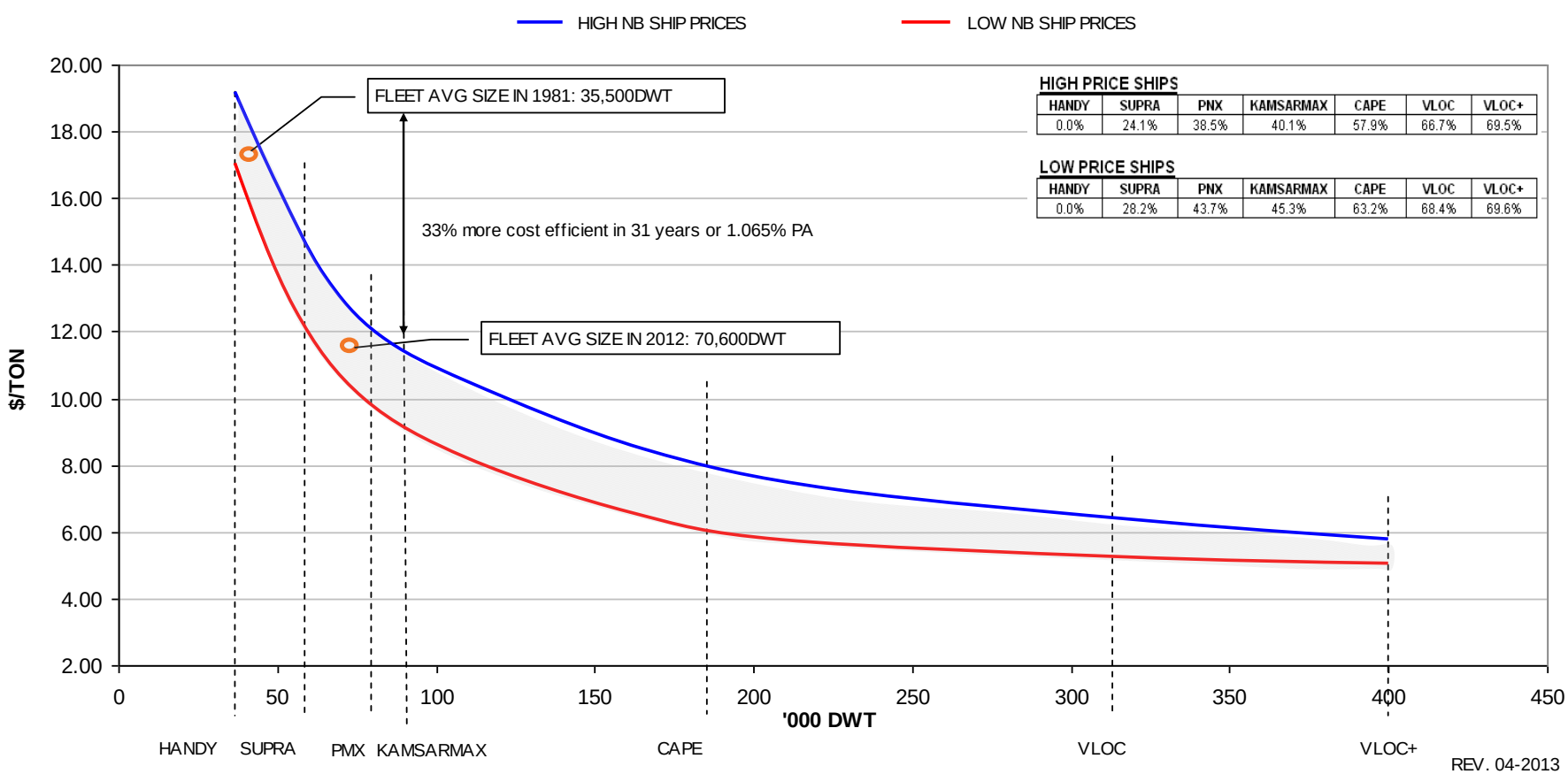
COST EFFECTIVENESS OF DIFFERENT SIZE BULK CARRIERS CARRYING A FULL CARGO FROM DAMPIER (AUSTRALIA) TO QUINDAO (CHINA) ON A ROUND TRIP BASIS



HIGH PRICE SHIPS

HANDY	SUPRA	PNX	KAMSARMAX	CAPE	VLOC	VLOC+
0.0%	24.1%	38.5%	40.1%	57.9%	66.7%	69.5%

LOW PRICE SHIPS

HANDY	SUPRA	PNX	KAMSARMAX	CAPE	VLOC	VLOC+
0.0%	28.2%	43.7%	45.3%	63.2%	68.4%	69.6%

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SHIP SIZE vs. FLEXIBILITY

- Bigger ships fit into less ports and are limited by waterway restrictions.

- Port infrastructure expansion is easier justified in ports of projected high cargo throughput. **Accommodating bigger ships in new, strategically located ports improves a country's cost structure making it more cost competitive by encouraging Parcel trade.**

Ships must be appropriate for the envisaged trade.

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SHIP ENERGY EFFICIENCY

More energy efficient ships are a reality and will be **"game changers". They are more energy efficient at any speed** compared to existing ships.

The basic technologies have been known, tried and tested for decades, if not centuries. The basic trade-off is **cargo intake revenue** vs. **bunker consumption cost** for every ship segment, in order to increase profitability. **The ratio BDI/BP is key.**

Energy efficient bulk carriers and tankers are about **20%-30%** more fuel efficient than ships presently operating.

For a **75.000 tdw** ship this represents a difference in average transport costs of about **$3,000/day** at bunkers costing **$700/ton** over a trading year. This income differential will depress the earning capacity and prices of existing similar tonnage going forward. **The NPV of such differences in fuel consumption represent between $6m-$8m over the life of a Panamax**.

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THE TECHNOLOGIES HAVE BEEN KNOWN FOR A LONG TIME

Hull form is very important

- A racing skiff does ~10 kn with 1 M-P
- A light rowboat does ~2.5 kn with 1 M-P

Slow speed engines and propellers

"Propeller efficiency usually increases with increasing diameter" … "A reduction of the RPM tends to be beneficial" "Muntjewerft in 1983 mentions a possible increase of propulsive efficiency of 10 to15 pct" (PNA-1988)

In 1981 Burmeister & Wain produced their MKIII 65.000 tdw Panamax bulk carrier with improved hull, engine and a slow turning 6.9 m diameter propeller doing 82 RPM @75% MCR, thus creating a very energy efficient ship.

The ship at scantling draft traded at 13.5 kn consuming 26 t/day.

Its consumption was about 25% less than other ships built at the time.

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FREIGHT MARKETS AND SHIP PRICES

Freight market fluctuations are dictated by supply and demand imbalances.

So are ship prices. **"Eighty per cent of the monthly (ship) price change can be explained by changing spot earnings"** (Clarkson S.I.W., Issue 926 July 2, 2010).

The market is presently overtonaged. This will change and eventually rebalance, fluctuating around a reasonably profitable level.

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SHIPPING INVESTMENTS – ALIGNING INTERESTS

Shipowners invest in expensive, long term assets. For the right ship, cargoes will always be available, at a price. Freight rates are established by the supply of ships and the demand for transport.

To be successful, shipowners **must be good judges of the type of ship the market will require going forward and its price *"Caveat emptor".***

Newbuilding ship prices over the years have had an inflation adjusted low below which they are unlikely to drop. Scrap price fluctuates around 65% of the new steel price. **These two parameters could define a base line for ship valuations.**

Understanding the needs of the cargo receiver is important. The receiver is the shipowner's long term counterpart, not the charterer.

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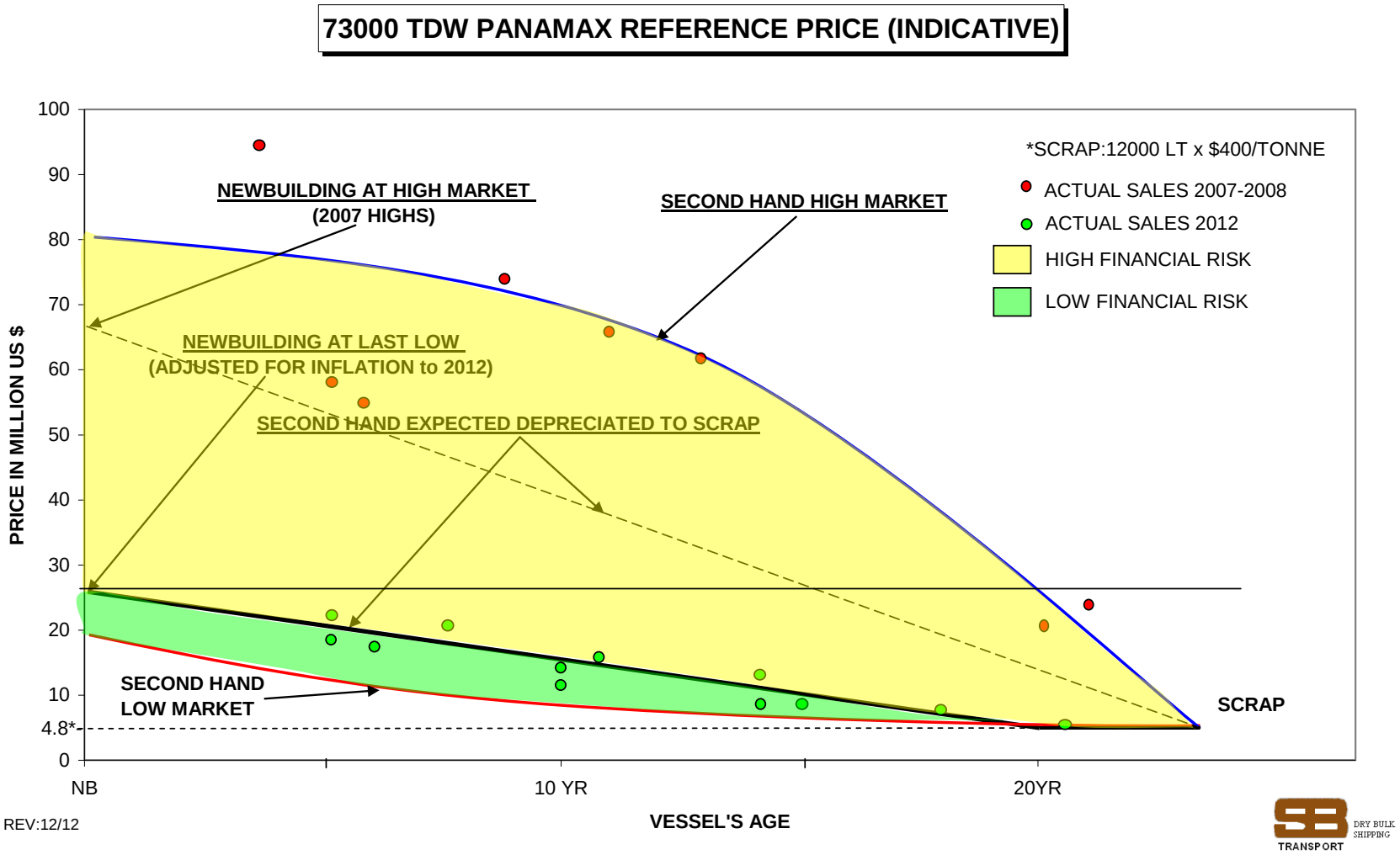
TIMING OF PURCHASES MUST ALSO BE RIGHT



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SHIP FINANCING

«Το δις εξαμαρτείν ουκ ανδρός σοφού»

(A second similar mistake is not the sign of a wise man)

Modern, flexible cross trading, energy efficient ships will always find cargoes at a price. The price depends on market levels.

Ships built for dedicated trades (industrial shipping) will rarely be able to compete outside their specific trade. These ships **would most probably require period cover**.

Charter cover is not a real security. **In a bad market most charterers renegotiate or default**. Recent experience highlights a trend that has been evident for decades. **Shipowners have a much higher survival rate than charterers**.

Financiers who insist in employment "security" (charters) boycott the shipping investments they finance. They should instead rely primarily on the abilities and judgment of their client, the shipowner. Over the years the attrition rate of charterers has been much higher than that of shipowners.

Shipowners use the same or better caliber chartering clerks than charterers.

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SCRAPPING REDUCES THE FLEET

- Tankers and bulk carriers have a finite economic life which depends mainly on the cost of repairs to keep them in service.

- The higher the repair costs and the lower the freight rates the sooner they will scrap. Attempts to accelerate this process through by imposing age limits lead to poor maintenance, increasing accidents.

- World scrapping capacity in 2012 reached 59 million tons for all ships. Scrapping capacity changes with demand.

2012, bulk carriers scraping was 4.6% or about 30 million tdw. The historic high of 5.5% PA was in 1986. This is indicative of a very low market.

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SUPPLY DEMAND BALANCE

Dry bulk ton mile demand is expected to increase between **6%-7%** in 2013.

Dry bulk shipping deliveries in 2013 are expected to be **10.5% of the fleet**. A further **7%** deliveries are estimated for 2014 but this may increase as more eco ships are being ordered

To this one must add **the ton mile capability of the slow steaming fleet** which is estimated to be about **20%- 25%** in order to reach average historical trading speeds which correlate to average freight markets.

To balance supply with demand a lot of tonnage will need to be scrapped. **The freight market will most probably not recover until end 2014.**

We still have a way to go.

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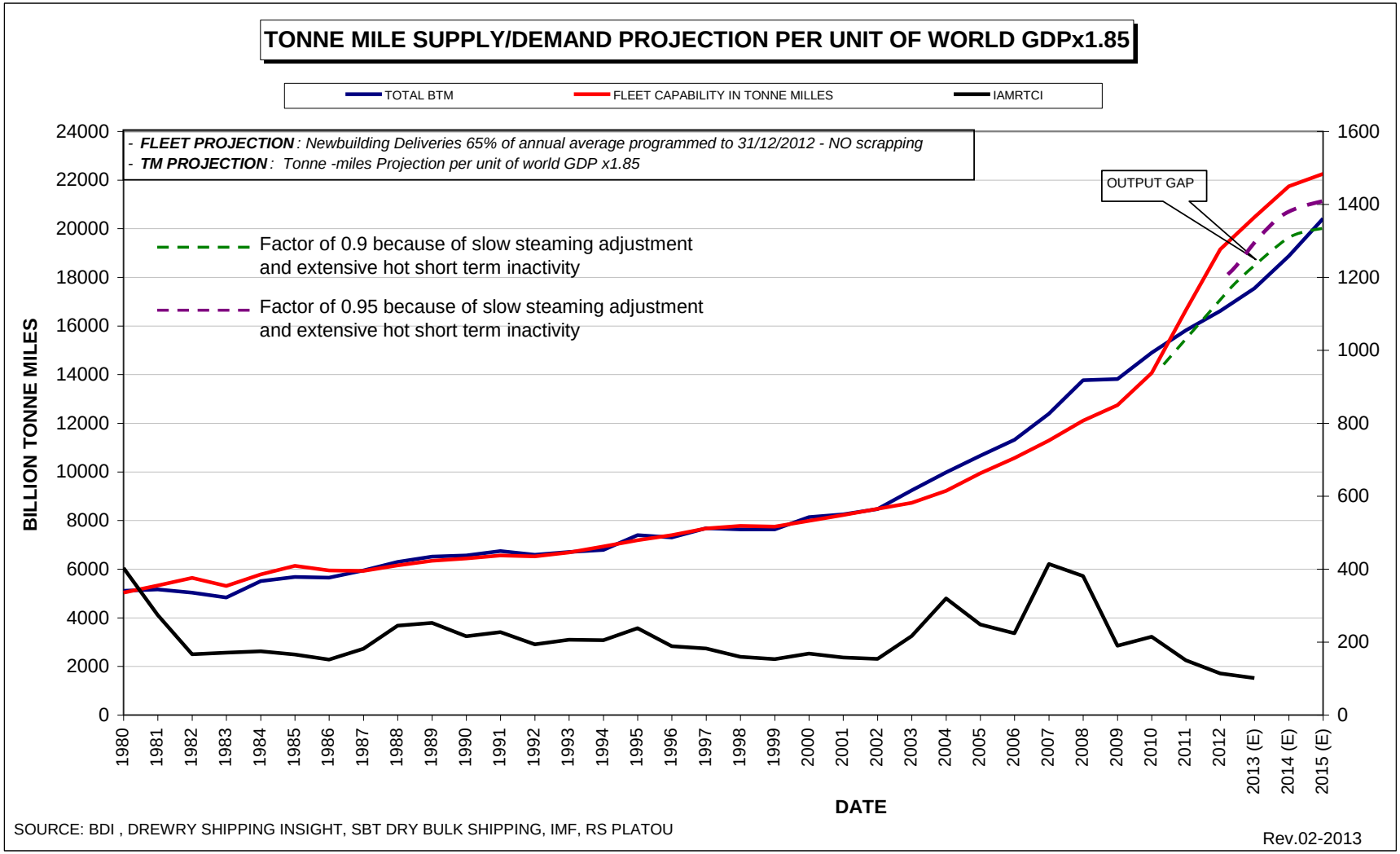
TONNE MILE SUPPLY/DEMAND PROJECTION PER UNIT OF WORLD GDPx1.85
TOTAL BTM
FLEET CAPABILITY IN TONNE MILLES
IAMRTCI
- FLEET PROJECTION : Newbuilding Deliveries 65% of annual average programmed to 31/12/2012 - NO scrapping
- TM PROJECTION : Tonne -miles Projection per unit of world GDP x1.85
OUTPUT GAP
Factor of 0.9 because of slow steaming adjustment and extensive hot short term inactivity
Factor of 0.95 because of slow steaming adjustment and extensive hot short term inactivity
BILLION TONNE MILES
DATE
SOURCE: BDI , DREWRY SHIPPING INSIGHT, SBT DRY BULK SHIPPING, IMF, RS PLATOU
Rev.02-2013

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AGE DISTRIBUTION OF THE BULK CARRIER FLEET

The bulk carrier fleet and particularly the more popular Capesizes, Panamax/Post Panamax and Supermax fleets are very young. Over **80%** of these fleets are younger than **15** years old.

New, eco design ships are only starting to be delivered now.

If overtonaging persists this will prompt scrapping of younger ships.

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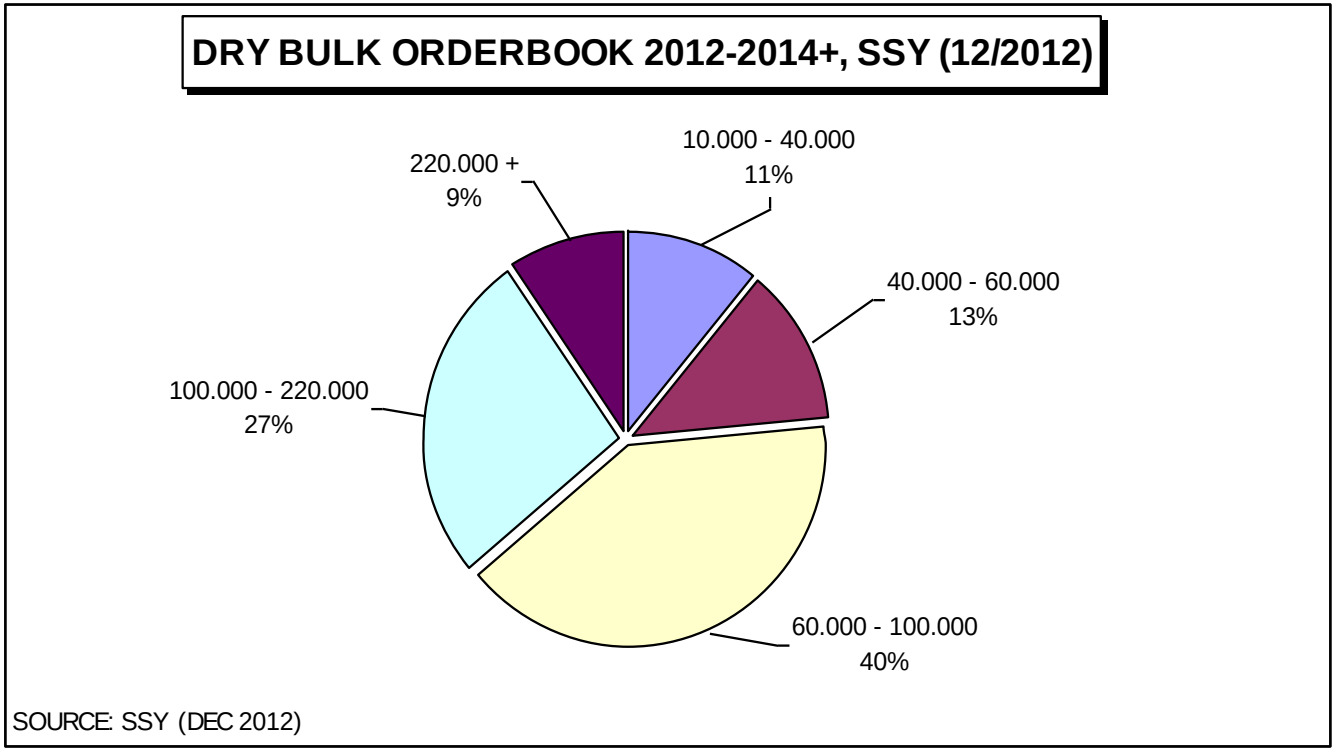
DRY BULK ORDERBOOK 2012 – 2014+, SSY 12/2012				
DWT Range	Nr. Of Ships	DWT	% of Fleet for	
	2012 – 2014+	2012 – 2014+	2013	2014
10.000 - 40.000	401	13,500,000	11.1%	5.2%
40.000 - 60.000	289	15,600,000	9.5%	1.9%
60.000 - 100.000	630	49,100,000	21.2%	6.7%
100.000 - 220.000	182	33,100,000	10.7%	3.9%
220.000 +	37	11,600,000	18.4%	4.1%
Totals	1,539	122,900,000	13.8%	4.4%

SBT ESTIMATED DELIVERIES IN TDW	**70.0**	**50.0**



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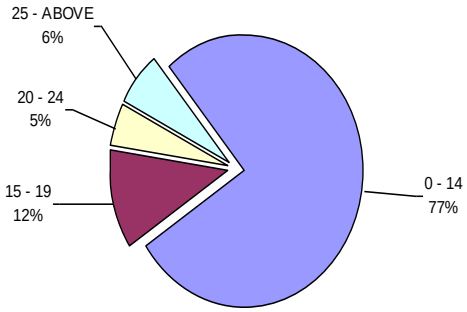
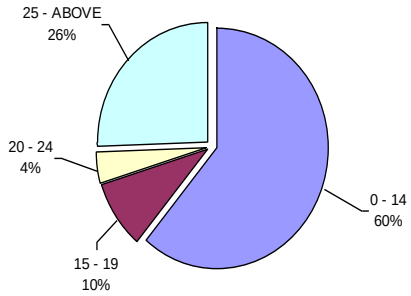
Age of ship - Total Fleet



> 20 : 11%

SOURCE: SSY (DEC 2012)

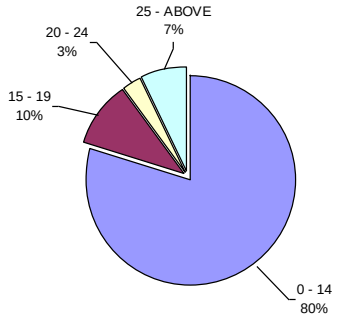
Age of 10.000 - 40.000 DWT Fleet



> 20 : 30%

SOURCE: SSY (DEC 2012)

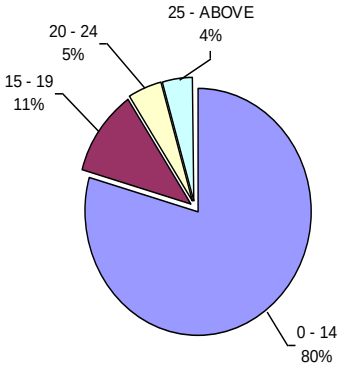
Age of 40.000 - 60.000 DWT Fleet



> 20 : 10%

SOURCE: SSY (DEC 2012)

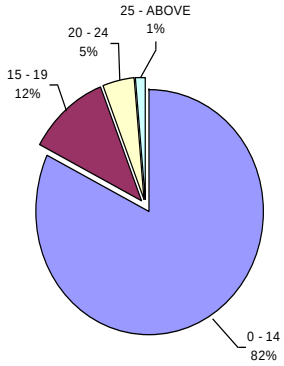
Age of 60.000 - 100.000 DWT Fleet



> 20 : 9%

SOURCE: SSY (DEC 2012)

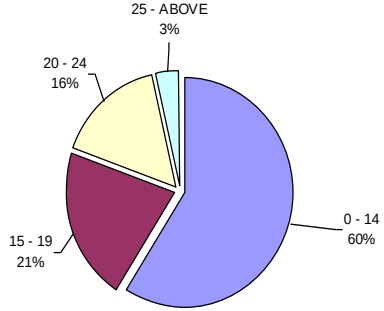
Age of 100.000 - 220.000 DWT Fleet



> 20 : 6%

SOURCE: SSY (DEC 2012)

Age of 220.000 - ABOVE DWT Fleet



> 20 :19%

SOURCE: SSY (DEC 2012)

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DEMAND FOR TRANSPORT PARAMETERS

The world economy appears to have bottomed out. **Emerging markets, which account for about 65% of bulk trades are now recovering.**

Ton mile growth projections will continue increasing, albeit at a decreasing rate of growth until emerging markets mature. This though will take time. Possibly decades. **The grain trade appears to have a steady but slow trend line increase with fluctuations going forward**. Even though it accounts for only about **9%** of total ton mile demand, **its effect on shipping may be greater because ships stay in port longer**.

It is possible that the grain trade rate of increase will be greater going forward. Reason: population, wealth increase and dietary improvements (1 kg chicken needs 2 kg grain, 1 kg hog needs 4 kg grain, 1 kg beef needs 7 kg grain). **Agricultural land is limited in areas of high population concentrations**.

Industrial raw materials:China's steel production uses only about **13.3%** scrap whereas the U.S. and Europe use between **55.0%** to **91.0%** Chinese, Indian and other emerging economies iron ore and coal imports will decrease with increased recycling. Efficiencies will further reduce the rate of growth of bulk imports.

New sources of raw materials may change ton mile factors.

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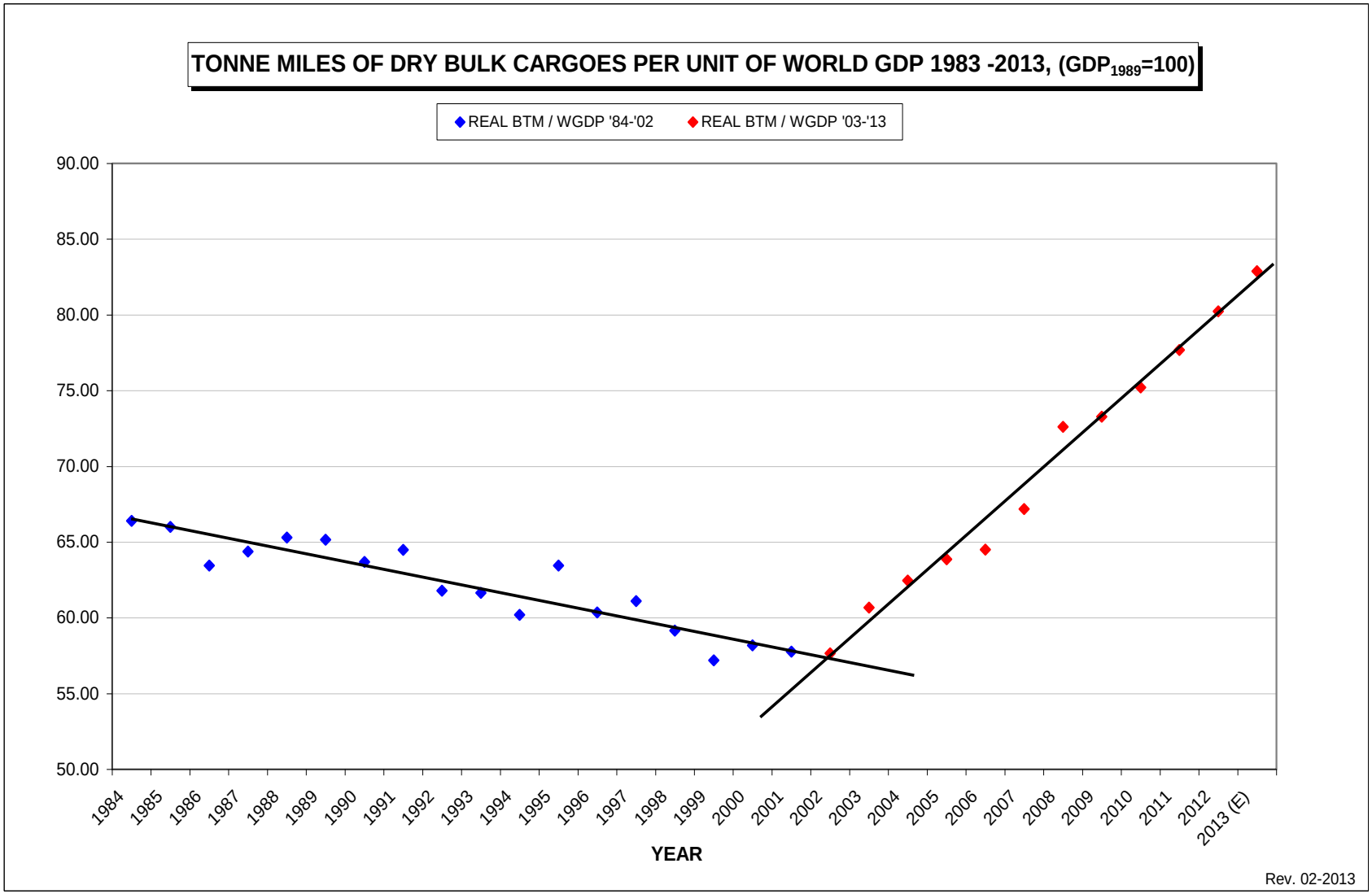
TONNE MILES OF DRY BULK CARGOES PER UNIT OF WORLD GDP 1983 -2013, (GDP1989=100)
REAL BTM / WGDP '84-'02
REAL BTM / WGDP '03-'13
90.00
85.00
80.00
75.00
70.00
65.00
60.00
55.00
50.00
1984
1985
1986
1987
1988
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2012
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YEAR
Rev. 02-2013

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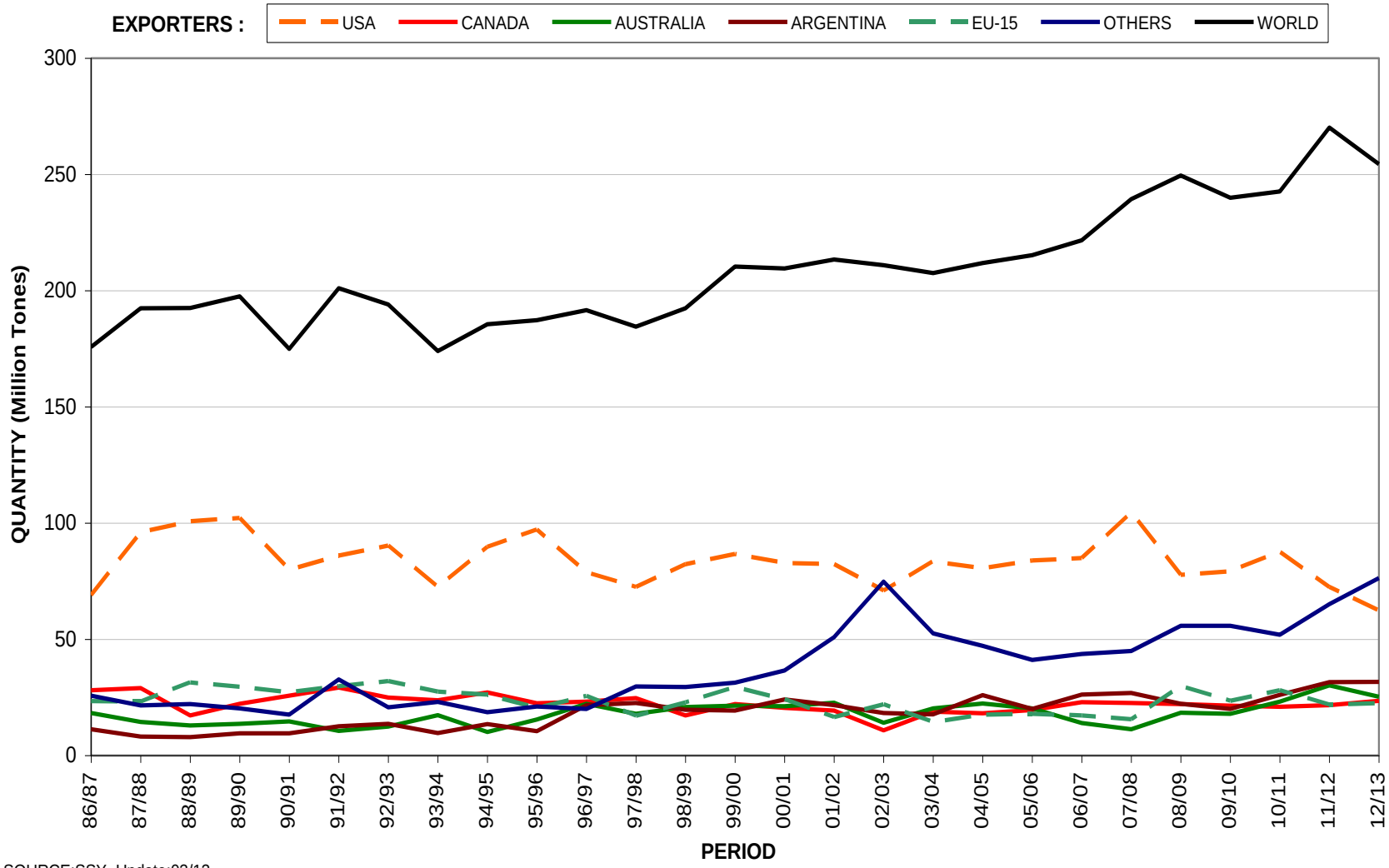
WORLD GRAIN TRADE



SOURCE:SSY, Update:03/13

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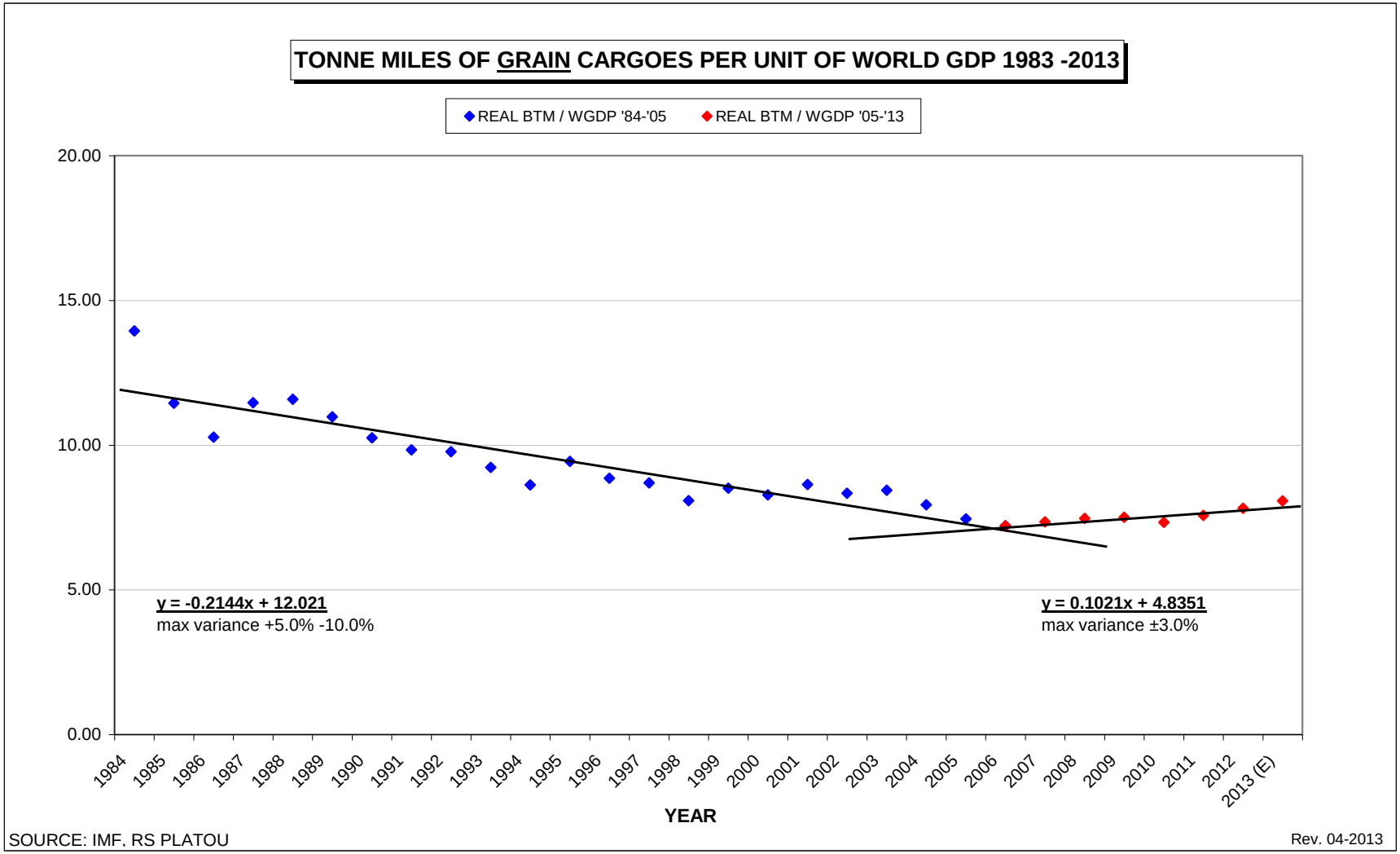
TONNE MILES OF GRAIN CARGOES PER UNIT OF WORLD GDP 1983 -2013
REAL BTM / WGDP '84-'05
REAL BTM / WGDP '05-'13
20.00
15.00
10.00
5.00
0.00
y = -0.2144x + 12.021
max variance +5.0% -10.0%
y = 0.1021x + 4.8351
max variance ±3.0%
1984
1985
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2013 (E)
YEAR
SOURCE: IMF, RS PLATOU
Rev. 04-2013

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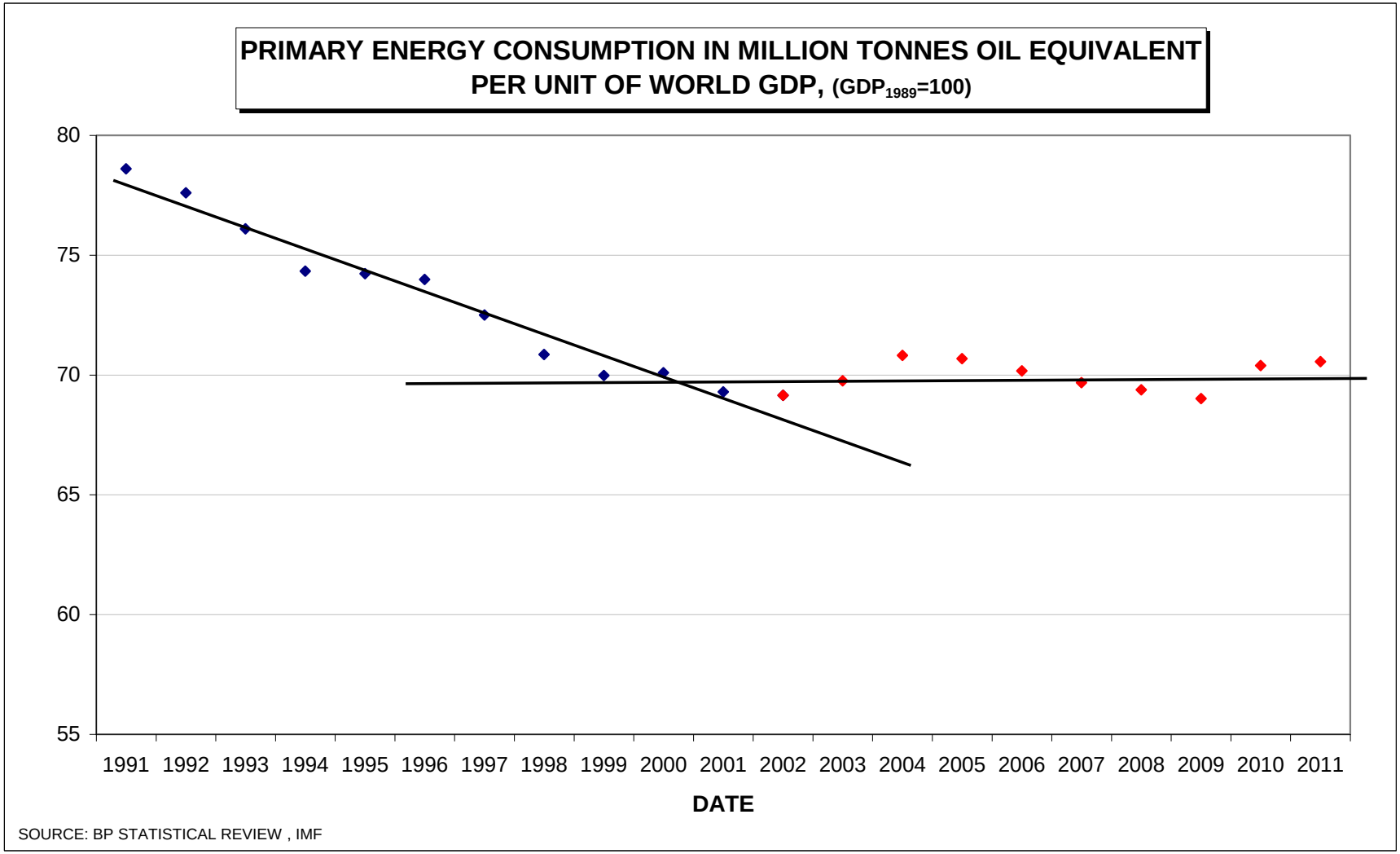
PRIMARY ENERGY CONSUMPTION IN MILLION TONNES OIL EQUIVALENT PER UNIT OF WORLD GDP, (GDP1989=100)
80
75
70
65
60
55
1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
DATE
SOURCE: BP STATISTICAL REVIEW , IMF

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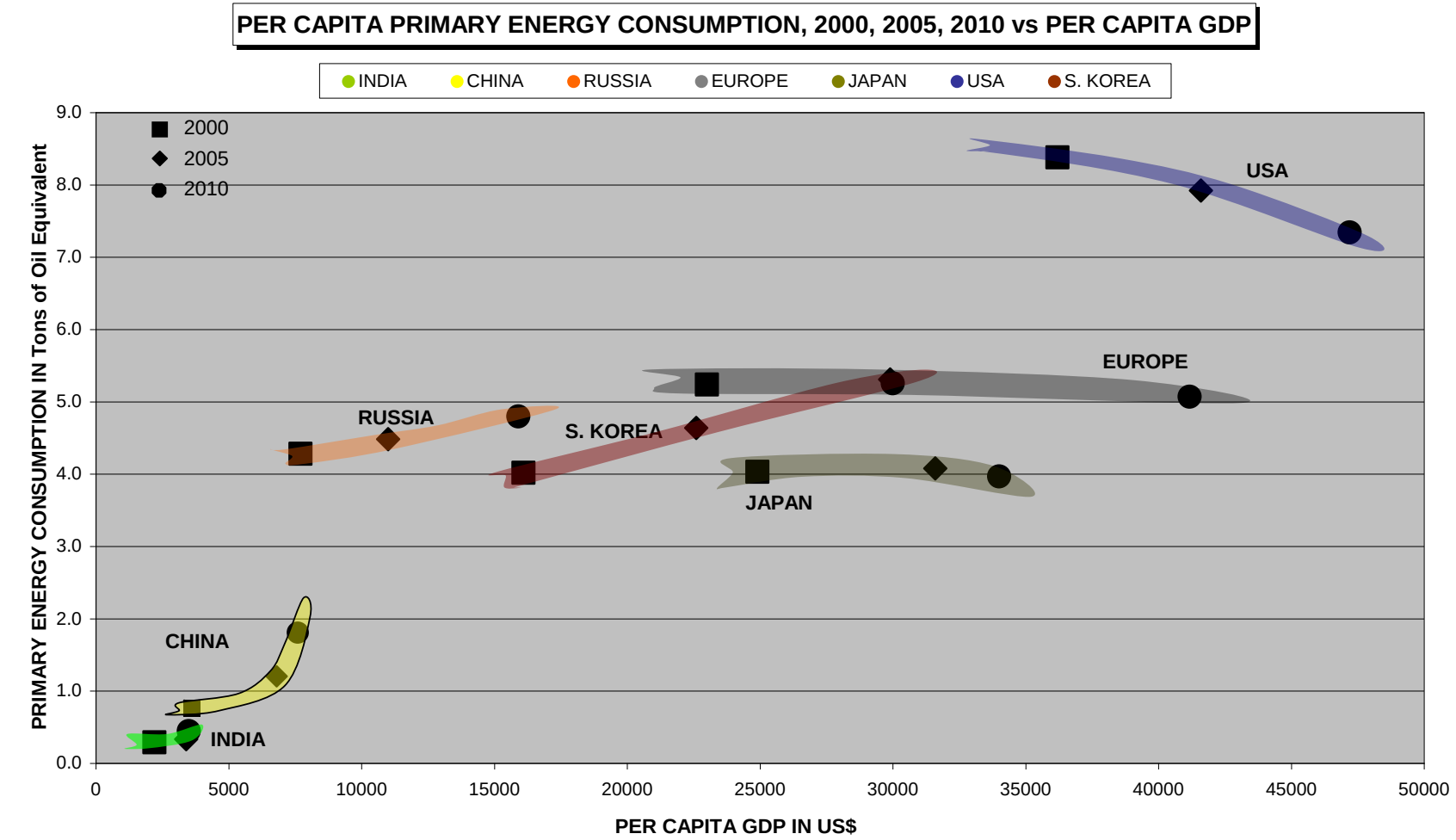

SOURCE: BP, CIA, IMF, Population Reference Bureau

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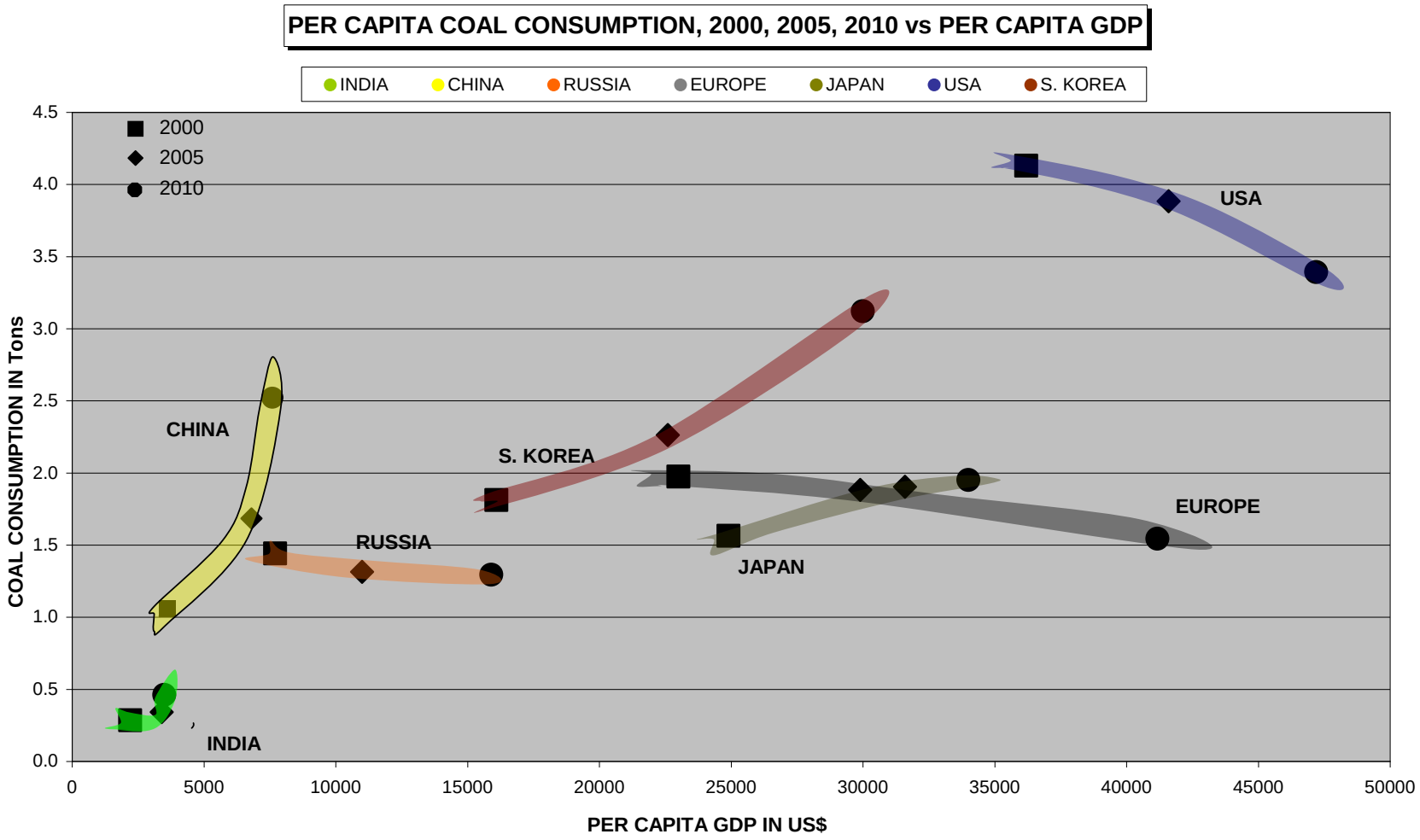

SOURCE: BP, CIA, IMF, Population Reference Bureau

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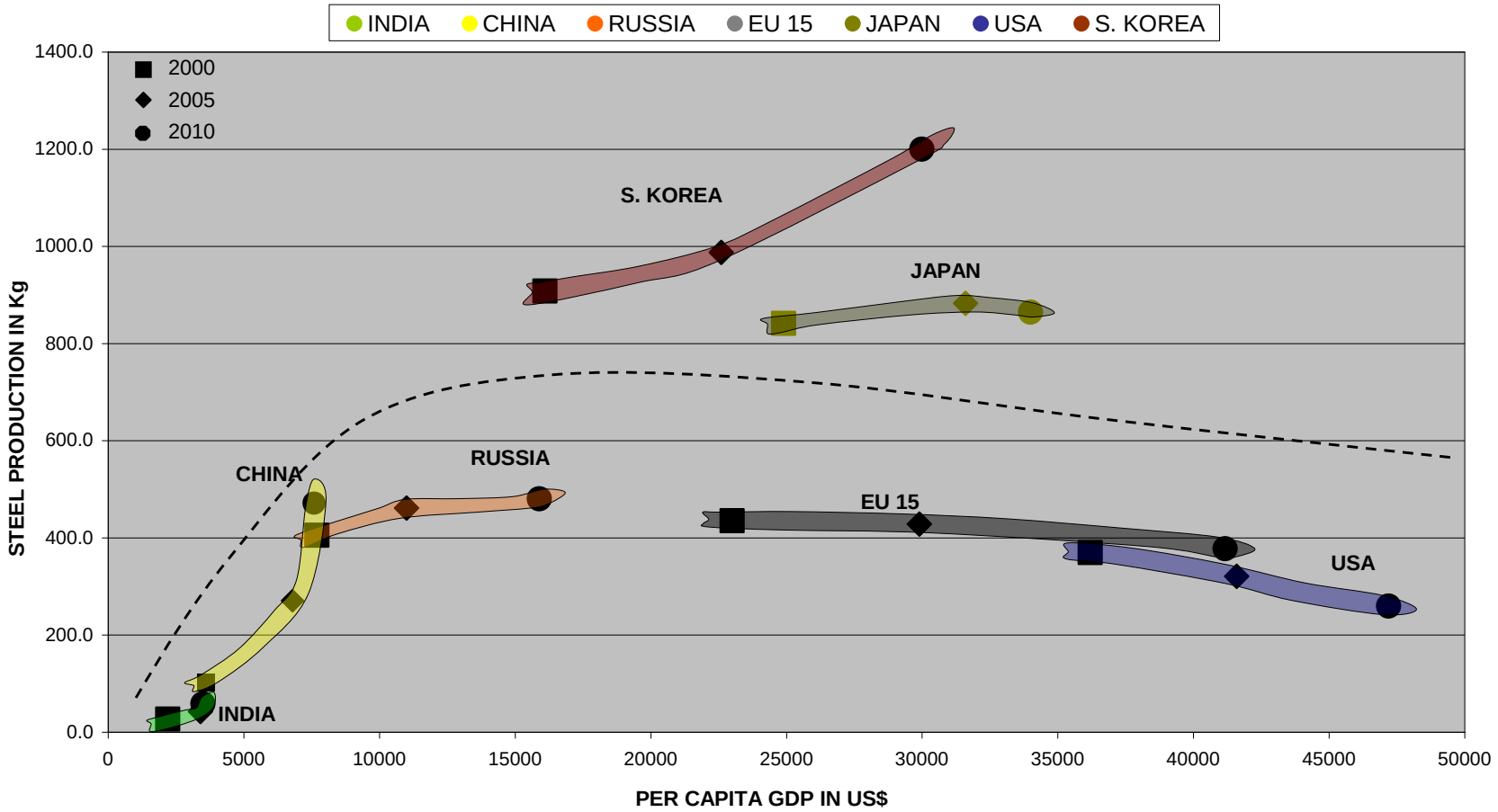
PER CAPITA STEEL PRODUCTION, 2000, 2005, 2010 vs PER CAPITA GDP



SOURCE: BP, CIA, IMF, Population Reference Bureau

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CONCLUDING REMARKS

As population and economies expand, seaborne trade will continue expanding. **It is very possible that the grain trade will start expanding faster in line with population growth and improving diets.**

As emerging economies mature, the rate of growth of seaborne trade per unit of world GDP **will probably decline due to efficiencies**, much as it did in the period prior to 2002.

Shipping profitability will always recover after adjusting for supply/demand imbalances.

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Thank you

George A. Gratsos