



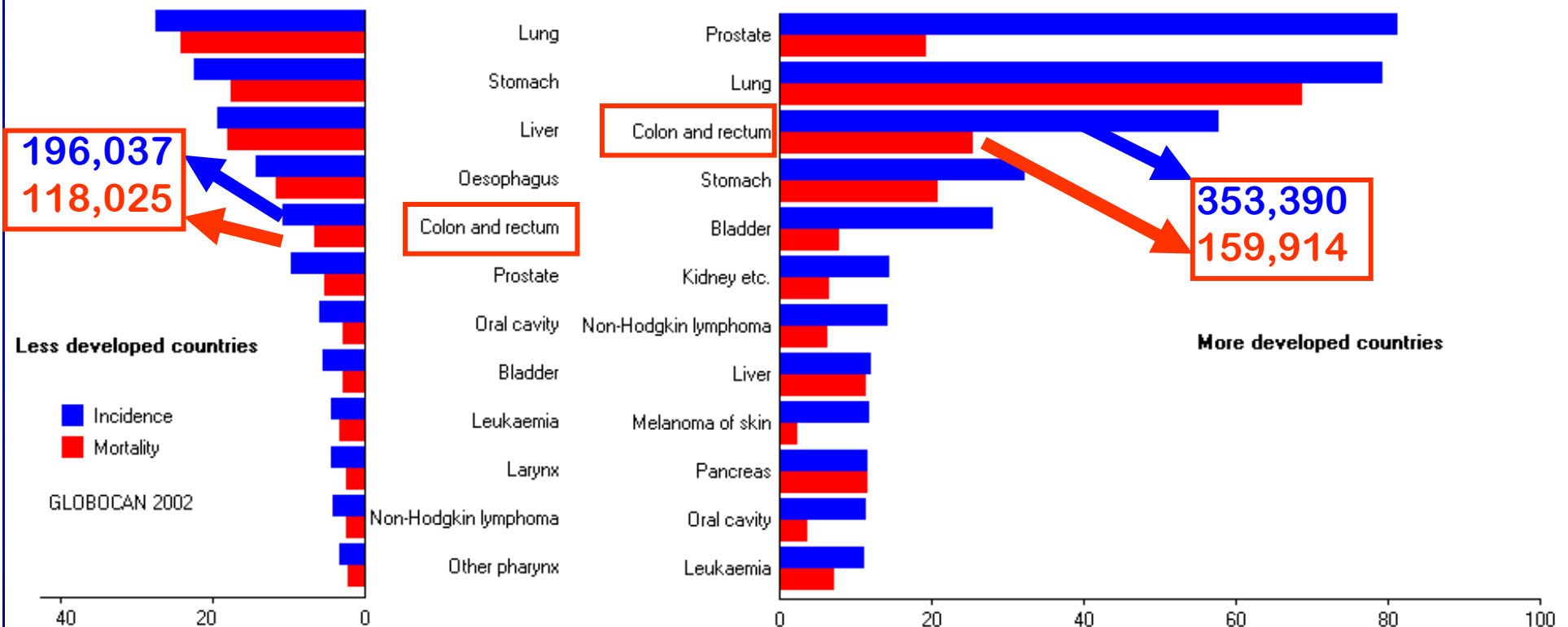
Colorectal Cancer:
not "*just*" a western
disease

Massimo CRESPI, Daniele LISI

*National Cancer Institute
"Regina Elena" – Roma, Italy*

Cancer Incidence and Mortality in “Less” and “More” Developed Countries - Males

ASR (World) (per 100,000)-Male (All ages)



(Globocan 2002)

Cancer Incidence and Mortality in “Less” and “More” Developed Countries

In brutal figures ...

Globocan 2002	More Developed		Less Developed	
Incidence	M 353,390		M 196,037	
	F 312,341		F 159,664	
	T 665,731	65.2 %	T 355,701	34.8 %
Mortality	M 159,914		M 118,025	
	F 153,980		F 96,184	
	T 313,894	59.4 %	T 214,209	40.6 %

Life Expectancy at birth (years) top 10 and bottom 10 countries, 1999

Top 10 countries		Bottom 10 countries	
<i>Japan</i>	80.9	<i>Sierra Leone</i>	34.3
<i>Australia</i>	79.5	<i>Malawi</i>	37.9
<i>Sweden</i>	79.5	<i>Zambia</i>	38.5
<i>Switzerland</i>	79.3	<i>Niger</i>	38.9
<i>France</i>	79.3	<i>Botswana</i>	39.4
<i>Monaco</i>	79.1	<i>Zimbabwe</i>	40.5
<i>Canada</i>	79.1	<i>Rwanda</i>	41.8
<i>Andorra</i>	78.8	<i>Uganda</i>	42.2
<i>Italy</i>	78.7	<i>Ethiopia</i>	42.3
<i>Spain</i>	78.7	<i>Mali</i>	42.7

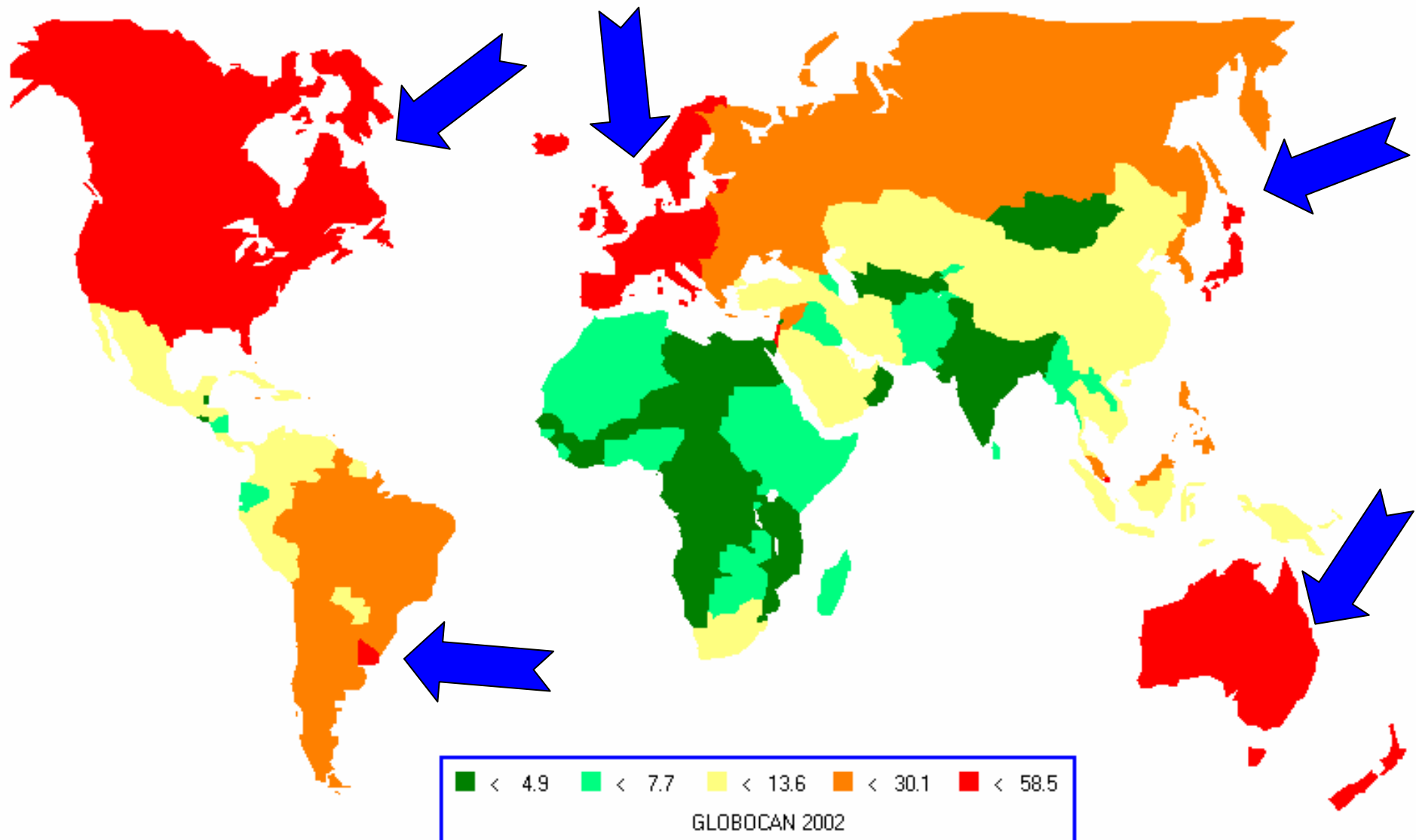
Rate of CRC on total deaths by WHO region

WHO Regions	*Colorectal cancer	*All cancer	*All causes	% CRC / All cancer	% CRC / All causes
Africa	27	544	10681	4.96	0.25
The Americas	108	1111	5911	9.72	1.83
Eastern Mediterranean	15	279	4156	5.38	0.36
Europe	235	1867	9703	12.59	2.42
South East Asia	58	1113	14467	5.21	0.40
Western Pacific	174	2202	11636	7.90	1.49
Total	615	7115	56554		

* x 1000

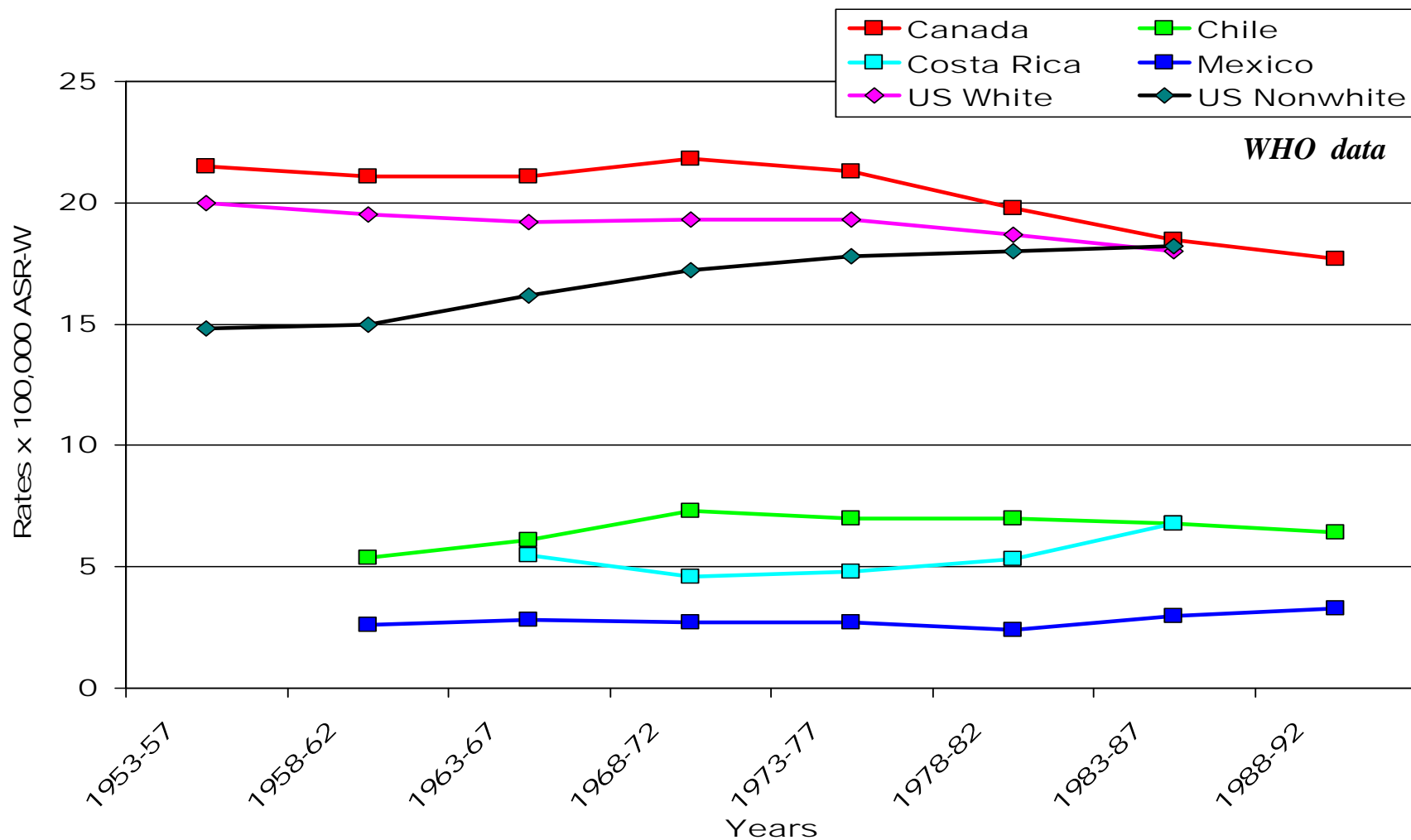
WHO estimates for 2001

Incidence of CRC (ASR-W Males, All ages)

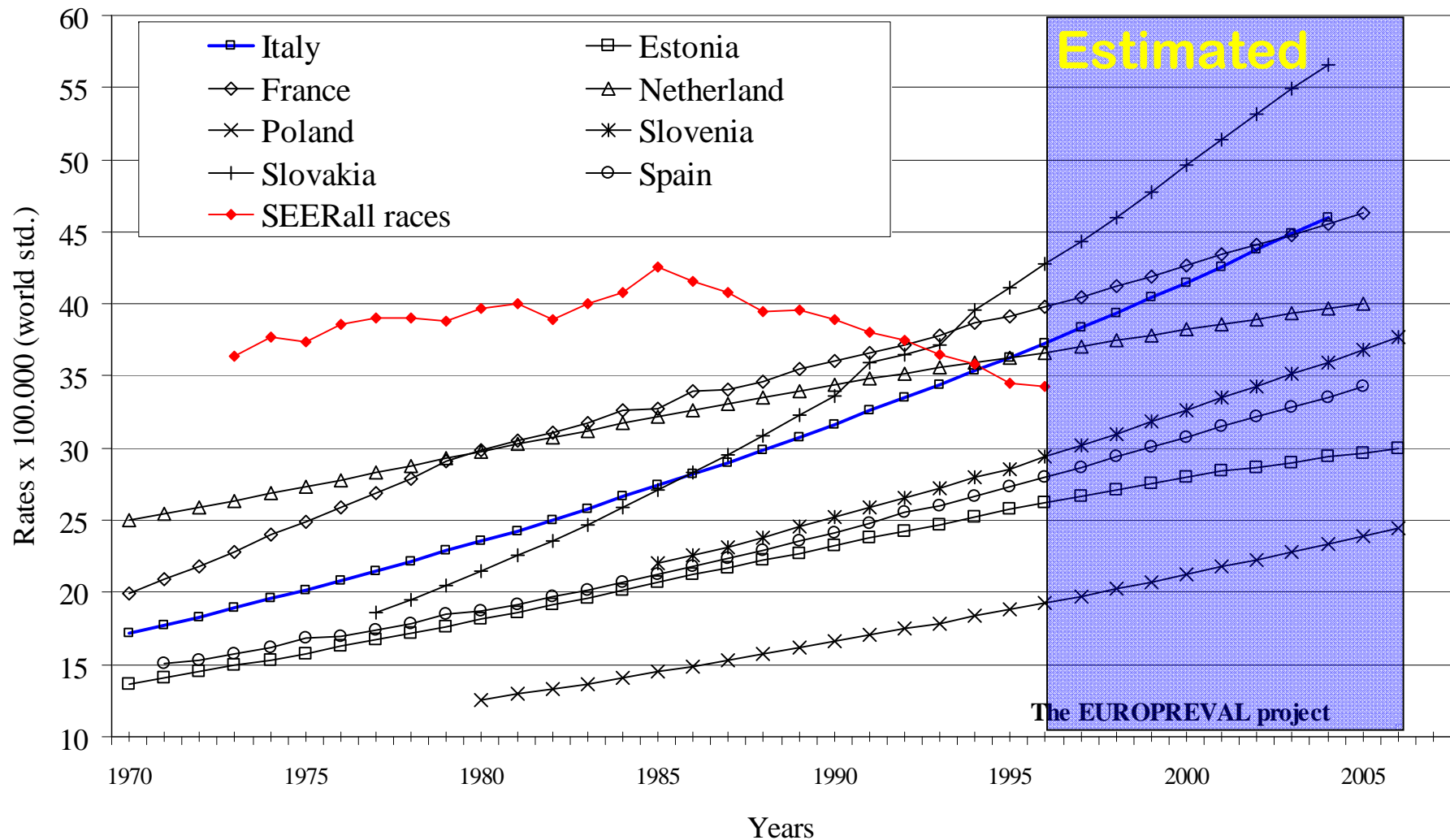


CRC Mortality trends in WHO Regions

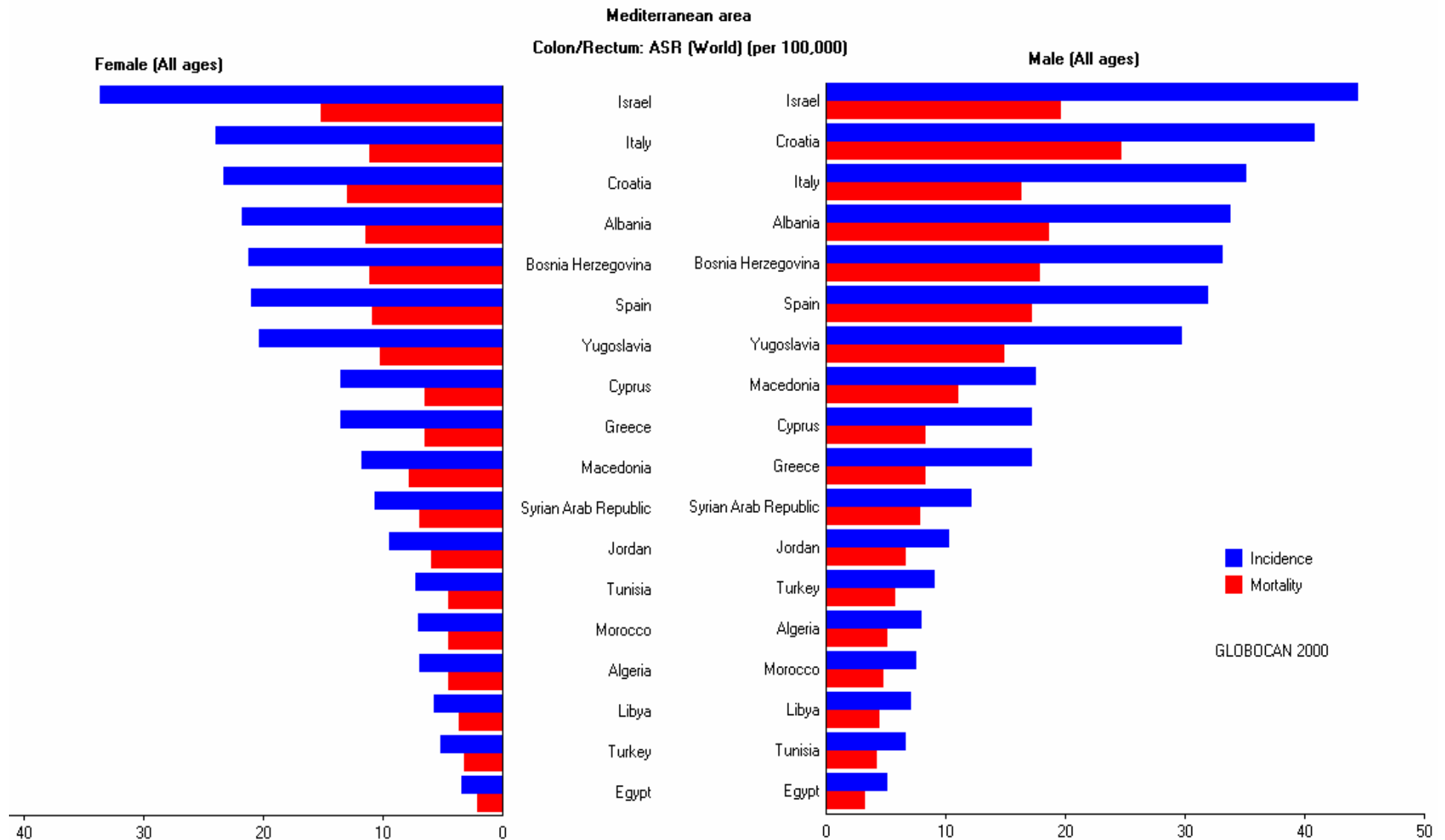
Males – The Americas



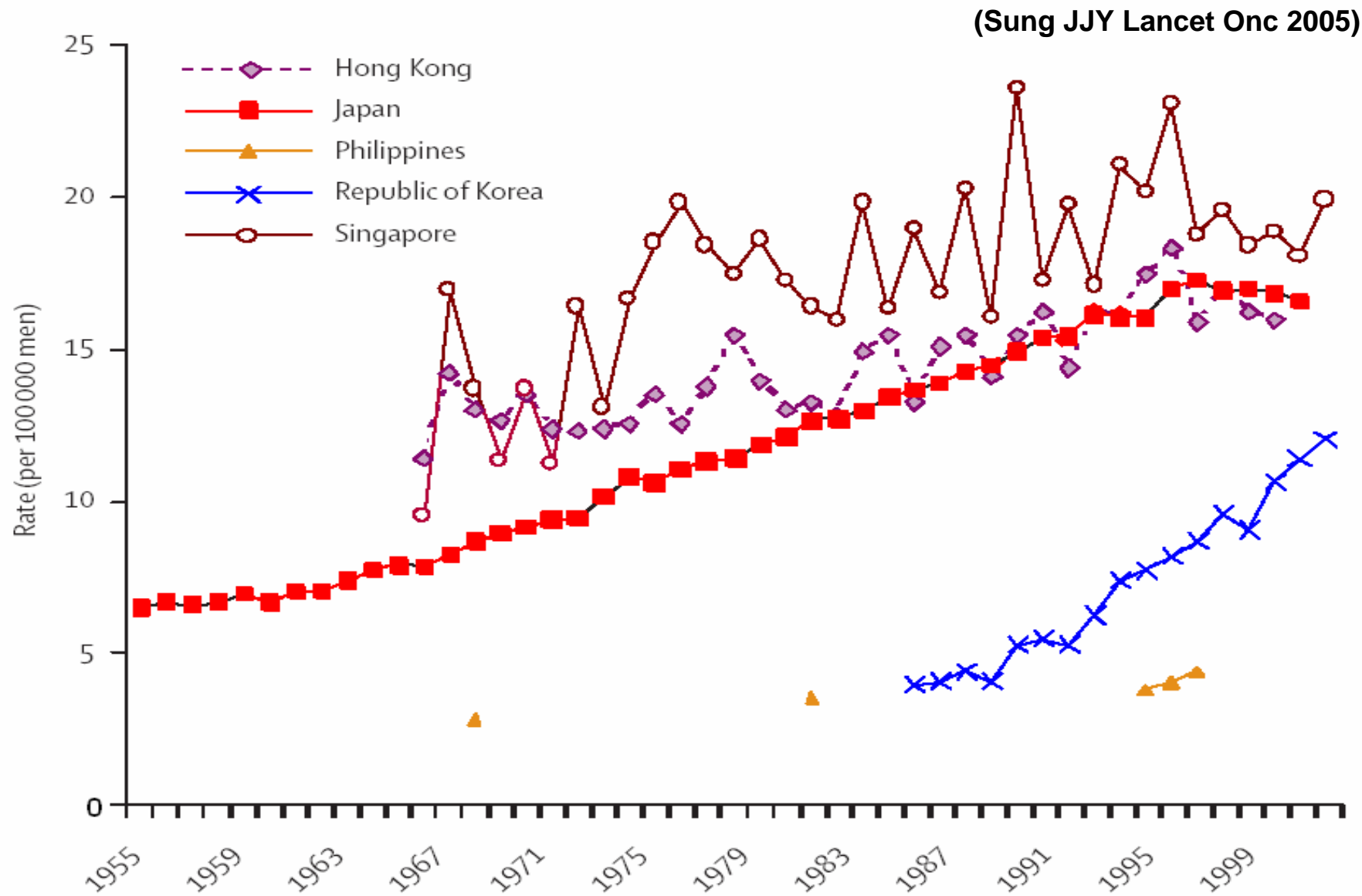
Trends in Incidence (M + F) of CRC in Europe vs USA Seer selected Countries



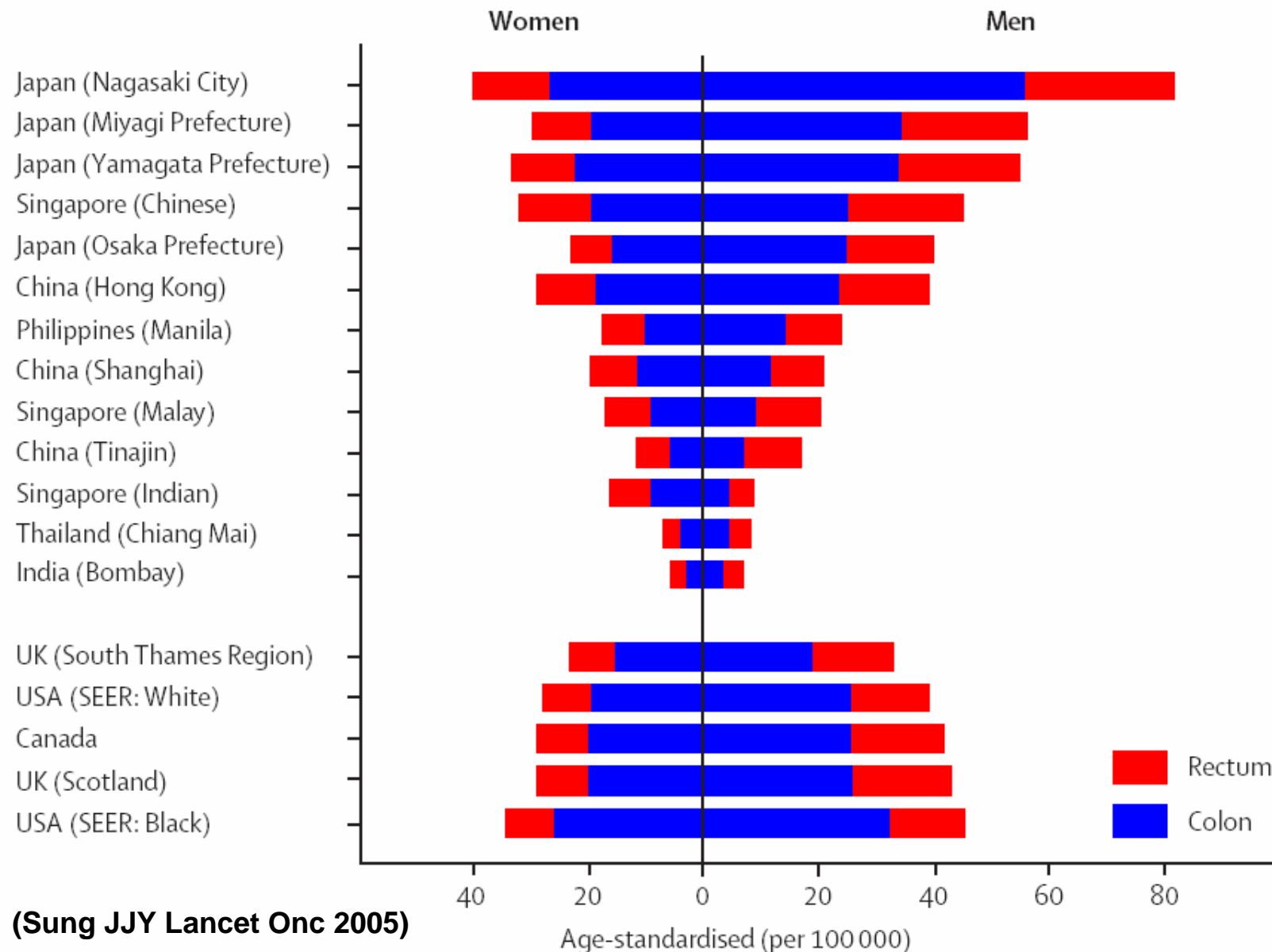
COLON cancer Incidence and Mortality in Mediterranean area



Mortality trends of CRC in Asian populations (Males 1955 – 1999)



Incidence of CRC in Asian populations compared with US and UK (1993 – 1997)



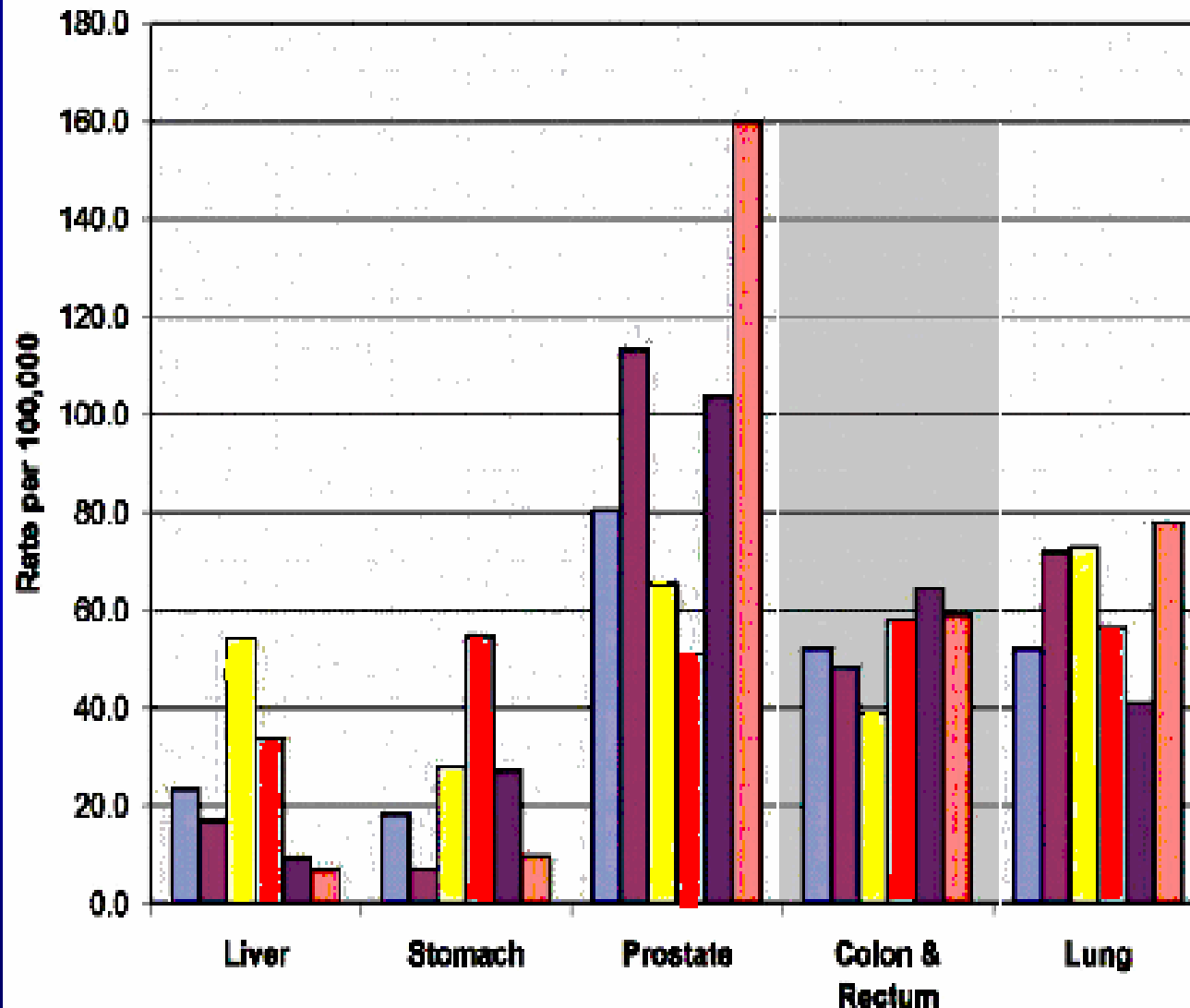
(Sung JJY Lancet Onc 2005)

**The effect of the progressive
“westernization” of Asian countries
may be well projected from the US
data by ethnicities**

(Mc Cracken M et al, 2007)

**With expanding globalization it seems
that even Western Nations have an
“in house” problem ! ! !**

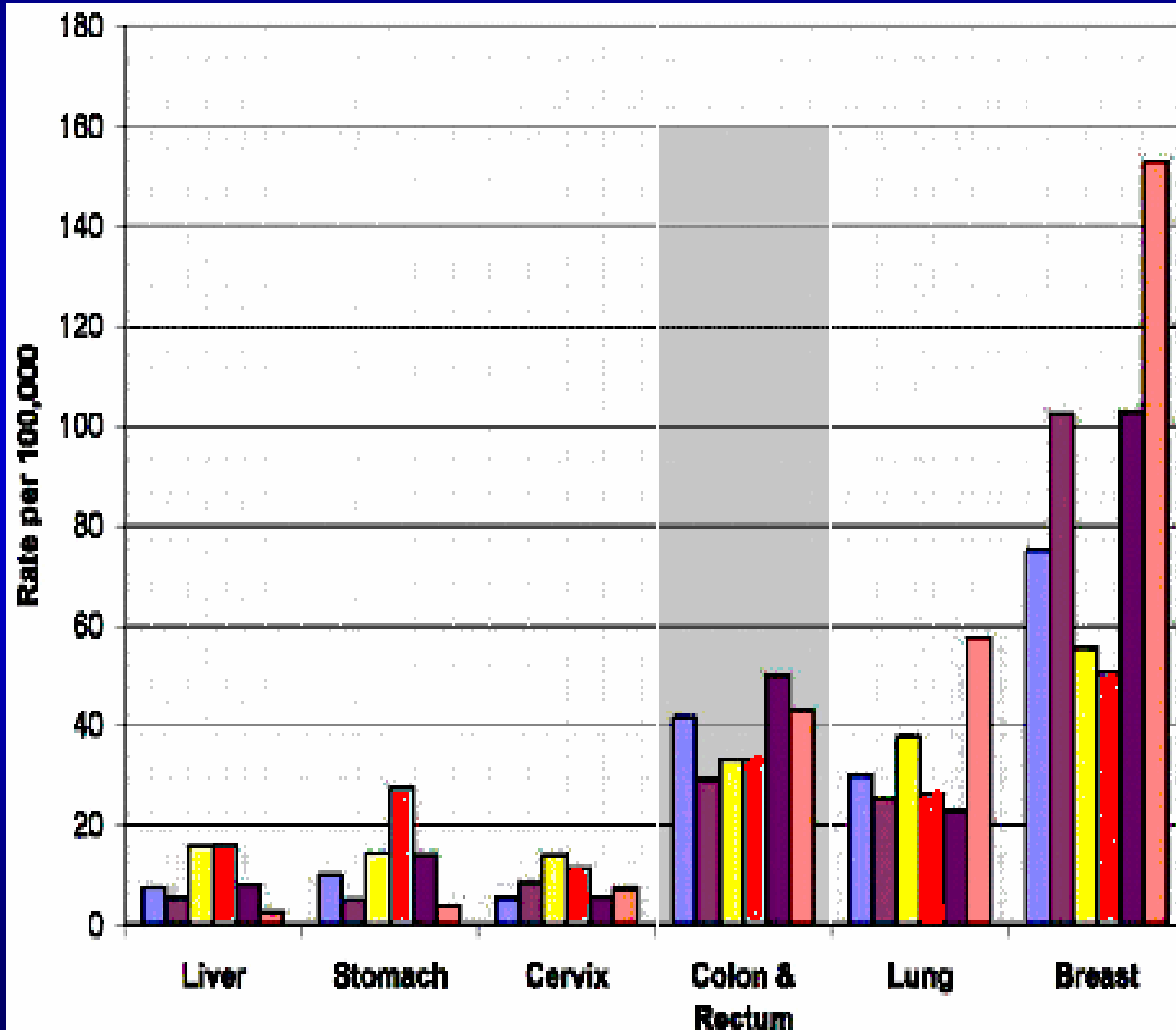
Cancer incidence in Asian American Ethnic groups (Males), compared to California white



McCracken, M. et al.
CA Cancer J Clin 2007

- Chinese
- Filipino
- Vietnamese
- Korean
- Japanese
- Non-Hispanic White

Cancer incidence in Asian American Ethnic groups (Females), compared to California white



McCracken, M. et al.
CA Cancer J Clin 2007

- Chinese
- Filipino
- Vietnamese
- Korean
- Japanese
- Non-Hispanic White

Possible actions for CRC Prevention

<i>Summary of action with level II or III of evidence</i>	
Energy intake	Physical activity
Dietary fat	Fresh fruit and vegetable
Fiber	Calcium
Selenium	Anti-oxidant vitamins
Anti-inflammatory drugs	SCREENING

Level II: *Obtained from at least one properly designed RCT*

Level III: *Obtained from a control trial without randomisation,
 “ “ cohort or case-control analytic studies,
 “ “ multiple time-series with/without the intervention*

SCREENING STRATEGIES AND AVAILABLE RESOURCES

In most developing nations, Africa, Asia (3.8 billion population), CRC screening is not a priority, resources are limited, awareness still low or restricted to the more affluent (private care)

The preferred and more affordable screening strategy worldwide is FOBT (trend towards iFOBT). Bleeding from worm infestation is a problem in developing countries

Primary TC / FS screening offered only in a few affluent nations (US, UK Germany, Italy, Austria, Luxemburg, Poland), FOBT as alternative

In the real world....

- Uptake of screening opportunities is not exceeding 40 to 50% even in the more developed, wealthy nations
- In unselected general population it is as low as 20% (Australia, Canada)
- The scarce convincememnt of GPs in advising CRC screening and the embarrassment to discuss bowel matters are problems that only a strong action towards increased awareness may overcome

Alternate strategies in low resource settings

To aim at familiar / genetic risk for CRC
(just few key questions by a health professional)

In subjects aged <45 years (rates on total cases)

	More Developed	Less Developed
Incidence	M 3.6 %	M 16.4 %
	F 3.8 %	F 15.4 %

Survival of Cancer Patients

The ultimate efficiency indicator of
preventive
diagnostic
therapeutic strategies
and the frame for evaluation of
Health Systems



EUROCARE



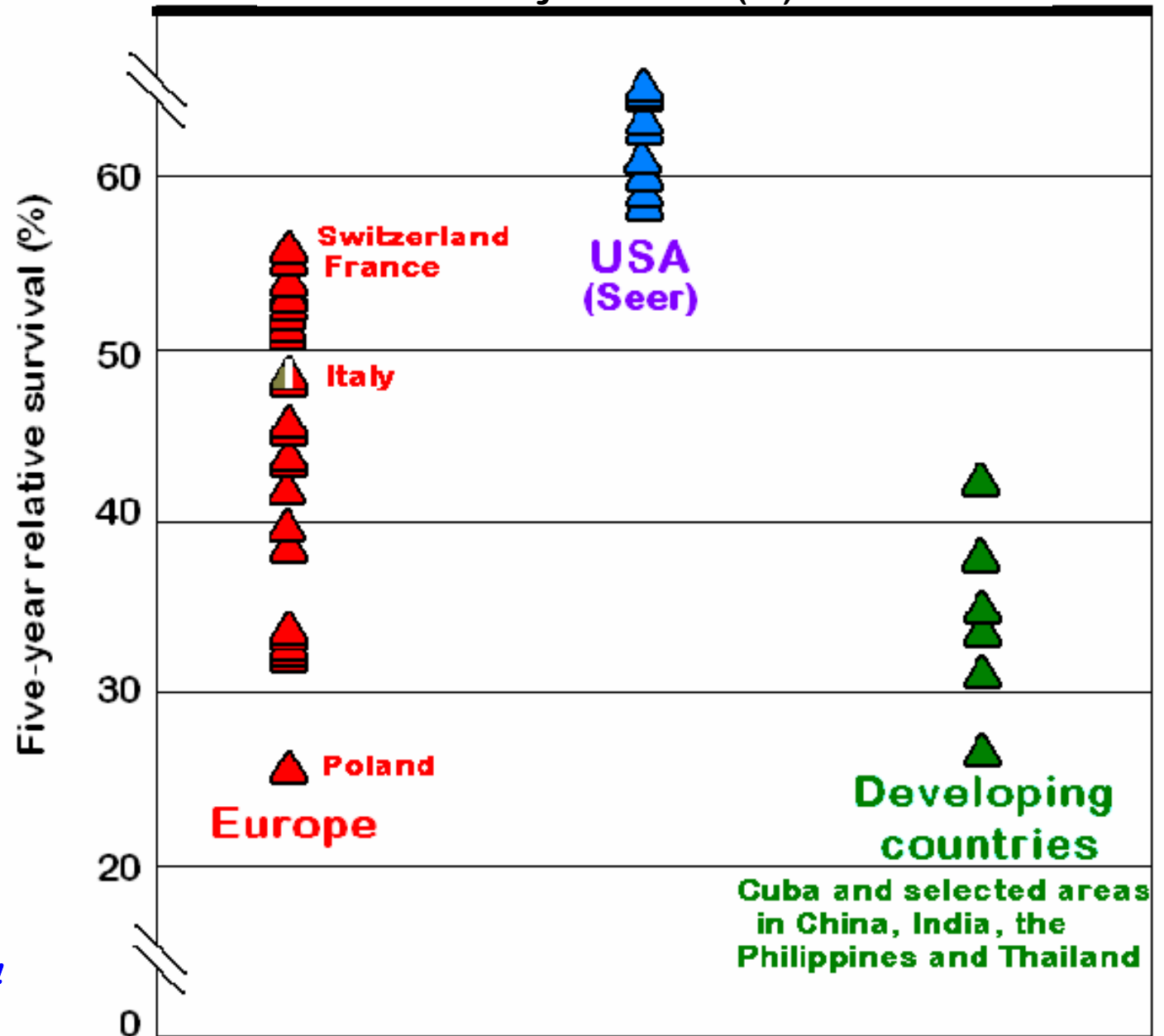
EPICENTRO.ISS.IT

EUROCARE.IT

*Eurocare-3 study
Annals of Oncology
2003 (Suppl. 5) vol. 14*

Colorectal Cancer (Males)

5y Survival (%)



5y survival of CRC from Cancer Registries

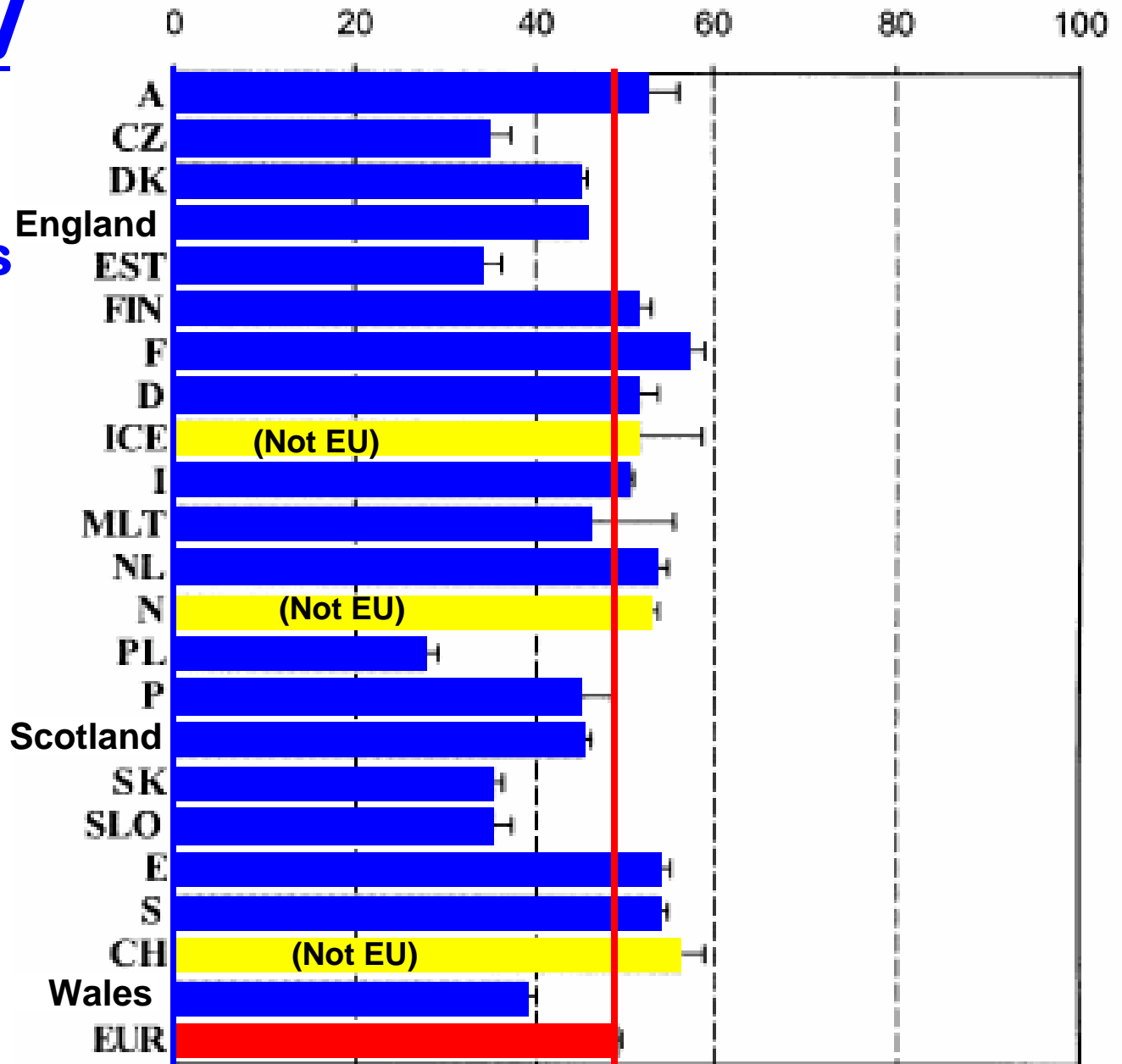


EPICENTRO.ISS.IT

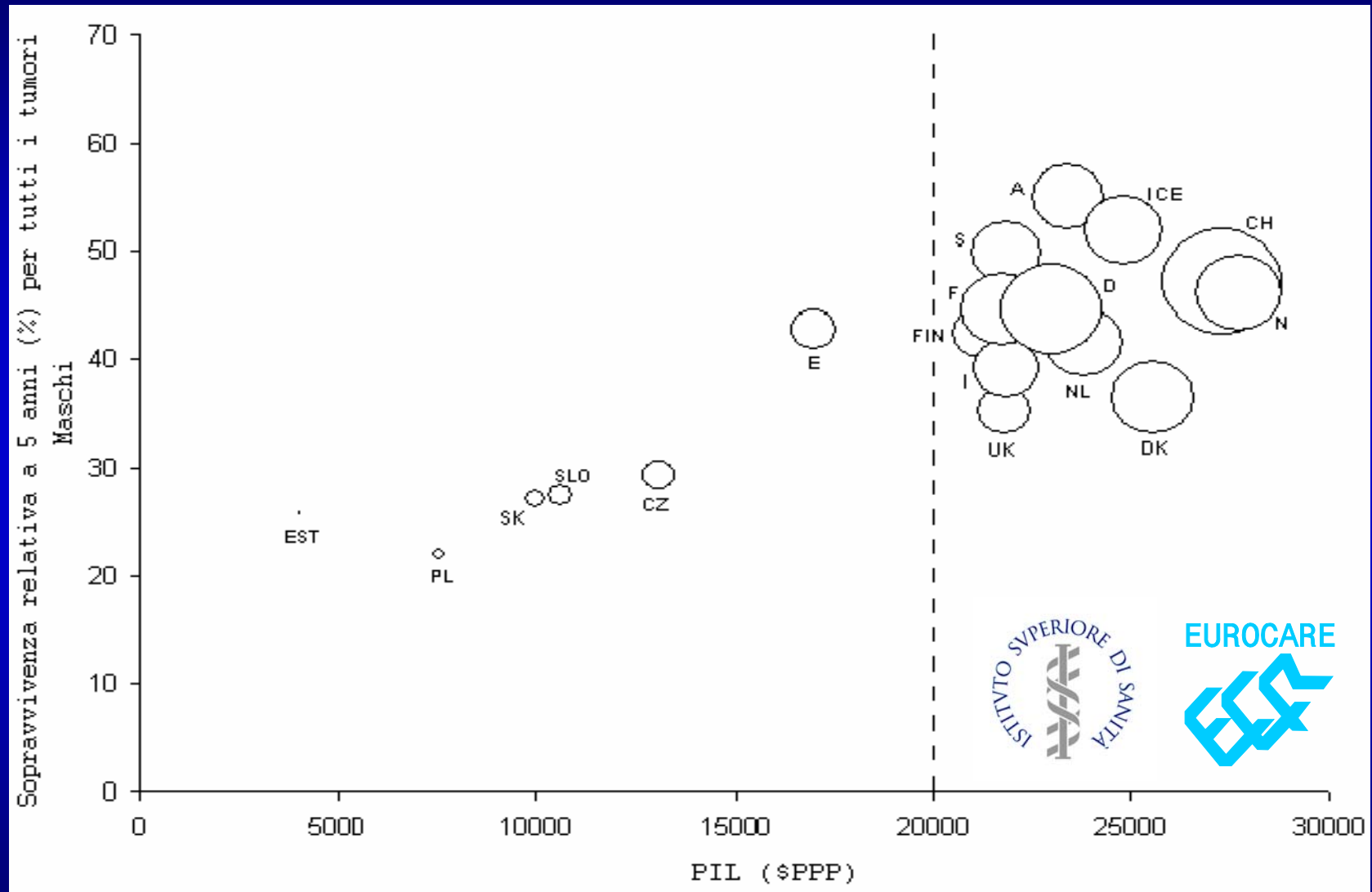
EUROCARE.IT

*Eurocare-3 study
Annals of Oncology
2003 (Suppl. 5) vol. 14*

Age-standardized five-year relative survival (%), persons



Gross Internal Product (1997) and all cancer 5y-Survival (adj. for age and site) (%) - Males



Disks area is proportional to National Health Expenditure (\$ PPP) del paese

\$ PPP: Parity Purchasing Power per capita (US \$) - From: OECD 2002 for GIP and NHE; EUROCARE-3 for survival

Prevalence at 5y of CRC patients

	5y prevalence
North America	618,403
Central America	28,350
South America	98,150
Europe	999,612
Africa	38,614
Asia	1,003,456
Australia and Pacific	43,630

(Globocan 2002)

D.K. Podolsky (NEJM, 2000):

“The barrier to reducing the numbers of deaths from Colorectal Cancer is not a lack of scientific data but a lack of organization, financial and societal commitment!”

After 7 years barriers are still barriers!



Table 1 Incidence and Mortality of CRC in EU (Globocan 2002)

Colon-rectum	Male (All ages)				Female (All ages)			
	Cases	ASR (W)	Deaths	ASR (W)	Cases	ASR (W)	Deaths	ASR (W)
Austria	2713	42.1	1325	20.1	2451	27.8	1325	13.9
Belgium	3304	37.0	1732	18.7	3130	26.8	1764	14.1
Bulgaria	1631	25.6	1114	17.1	1358	17.0	953	11.4
Cyprus	123	23.1	83	15.2	122	19.6	81	12.8
Czech Republic	4374	58.5	2559	34.0	3243	32.0	1938	18.0
Denmark	1828	41.0	1058	23.3	1800	33.0	1114	19.2
Estonia	282	31.7	160	17.9	350	23.2	199	12.6
Finland	1031	25.5	477	11.5	1146	21.1	573	9.8
France	19229	40.8	9078	18.2	15718	25.9	8019	11.8
Germany	31756	45.5	14396	19.9	32053	33.1	16467	15.7
Greece	1937	19.4	1025	9.7	1832	15.6	1006	8.0
Hungary	3977	56.6	2543	35.6	3509	33.7	2346	21.2
Ireland	1075	43.1	591	23.6	813	27.0	433	13.7
Italy	20457	39.2	9061	16.5	17276	26.6	7909	10.9
Latvia	372	24.2	279	18.0	488	17.9	368	12.3
Lithuania	615	26.5	424	18.0	616	16.8	434	11.3
Luxembourg	146	43.6	65	18.6	141	30.7	66	13.4
Malta	77	27.1	46	16.1	78	22.5	46	13.1
Poland	7671	31.9	4432	18.2	7909	23.5	4082	11.4
Portugal	2826	35.9	1643	20.0	2158	21.0	1307	11.9
Romania	3429	22.0	2172	13.6	2808	14.4	1843	9.0
Slovakia	1745	54.5	1071	33.2	1227	27.4	752	16.0
Slovenia	628	43.8	349	24.1	503	25.4	295	14.0
Spain	12418	36.8	6553	18.5	9546	22.5	5206	11.3
Sweden	2761	33.4	1273	14.9	2634	26.2	1209	11.1
The Netherlands	4940	40.9	2329	18.9	4582	30.8	2313	14.4
United Kingdom	19407	39.2	8912	17.5	16562	26.5	8278	12.4
EU	150752	27,39%	74750	26,85%	134053	28,36%	70326	28,07%
World	550465		278446		472687		250532	