STATISTICS AS A TOOL FOR POLICY MAKERS DEVISING OR CHANGING PATENT SYSTEMS

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WIPO CONFERENCE

IMPORTANCE OF STATISTICS ON PATENTING TRENDS ANALYSES AND PROJECTIONS

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STATISTICS AS A TOOL FOR POLICY MAKERS DEVISING OR CHANGING PATENT SYSTEMS

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STATISTICS AS A TOOL FOR POLICY MAKERS DEVISING OR CHANGING PATENT SYSTEMS

This topic will focus on the following issues:

- the escalated interest in S&T output indicators, and the relevance of patent statistics in this regard
- the reality that legal (and patent) systems operate with a framework of external parameters
- consideration of examples of changes to patent systems
  - the demand to provide affordable medicines
  - the drive to expand patentable subject matter
  - the need for accession to international treaties

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PATENT APPLICATIONS AS S&T OUTPUT INDICATORS

- a surge of interest in science and technology (S&T) output indicators occurred over the past two decades
  - 1978 UK SSRC* : Science Indicators Conference
  - 1980 OECD** : Science and Technology Indicators Conference
- several S&T output indicators were identified
  - counts of scientific papers
  - citation analyses
  - comparisons of international balance of payments in technology intensive goods
  - patent applications in relevant fields of technology
- however, IP generally and patent information in particular remains one of the most often used statistical methods of quantifying S&T outputs

* SSRC : Social Science Research Council
** OECD : Organisation for Economic Cooperation and Development

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IMPORTANCE OF S&T OUTPUT INDICATORS

- a search of literature on the evaluation of research programmes and S&T activity gives remarkable results
  - more than 1000 publications on S&T evaluation studies
  - more than 100 publications on the use of patent indicators
- patent statistics have been used in the past to –
  - measure economic development (Braga et al, Sherwood)
  - interpret and predict foreign direct investment (Maskus)
  - assess the relevance of research programmes (Grupp et al)
  - quantify science and technology output (Soete et al)
  - analyse trends in innovation and measure innovation output (Meyer-Krahmer)

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ADVANTAGES OF PATENT STATISTICS

- using patent statistics as an indicator is generally accepted to entail advantages
  - patent information is readily available from most countries
  - patent information is believed to be based on objective and comparable standards
  - patent information reflects a representative and diversified sample
  - because patent information is generally available over long time periods, changes caused by technology development can be identified and assessed
  - patent information is recorded, shows chain of title, licensed users
  - the existence of computerised databases permits manipulation of information, extraction of sector information

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SHORTCOMINGS OF PATENT STATISTICS

- BUT: patent indicators should not be used in isolation
  - patents reflect only one aspect of innovation; a consistent picture can only be achieved by combining several indicators (Sirilli, Grupp, Griliches)
  - propensity to make use of patent protection varies from one field of technology to another (Scherer)
  - propensity to patent may vary from one country to another, due to geographical, economic, trade factors
  - granting of patents entails a delay factor, but often precedes marketplace / trade activity
  - absolute novelty requirement makes developed countries more heavily represented vis-à-vis developing countries
  - different standards of patentability may cause qualitative and quantitative distortions

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RELEVANCE OF STATISTICAL INFORMATION TO POLICY AND LAW MAKERS

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- a legal system does not arise or exist in a vacuum
  - legal norms must deal with an existing set of circumstances
  - legal norms must be compatible with surrounding systems / external parameters
  - legal norms must keep abreast of current developments
  - legal norms must provide for identified future needs
  - legal norms must achieve necessary regulatory objectives
  - legal norms must achieve a balanced and fair outcome (eg impact on existing rights)
- in the present area of globalisation, a legal system has to operate / function in a wider, internationalised context

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RELEVANCE OF STATISTICAL INFORMATION TO POLICY AND LAW MAKERS

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- policy and law makers devising / changing legal norms within a patent system cannot operate within a vacuum
  - changes have to take into account existing circumstances, surrounding parameters, current developments
  - changes have to achieve regulatory objectives
  - changes must have a balanced outcome
- finally, in the IP field generally, and in the patent area specifically, policy and law makers cannot ignore international principles and obligations

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EXAMPLE 1 : CHANGING PATENT SYSTEMS TO DEAL WITH GLOBAL HEALTH CRISIS

- in changing patent systems to deal with the global health crisis, policy and law makers require information on existing circumstances, current developments, future needs
  - the health crisis (HIV/AIDS, malaria, tuberculosis) in developing / least-developed countries
  - the pricing structure of medicines in developed countries vis-à-vis developing / least-developed countries
  - the lack of manufacturing capacity in the pharmaceutical field in developing / least-developed countries

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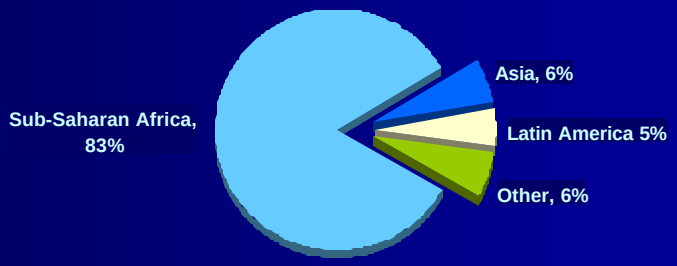
EXAMPLE 1 GEOGRAPHIC DISTRIBUTION OF HIV/AIDS

33.4 million HIV infected worldwide : 1998



Source: WHO, Dec. 1998

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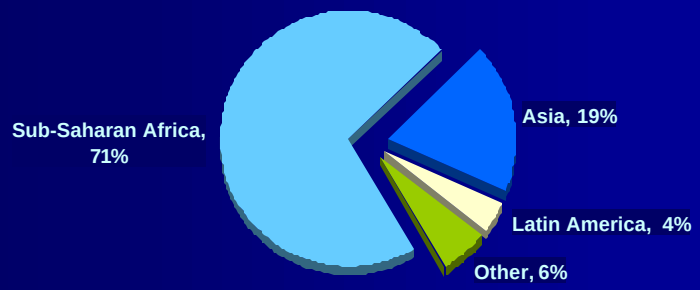
EXAMPLE 1 GEOGRAPHIC DISTRIBUTION OF HIV/AIDS

40 million HIV infected worldwide : 2001



Source: UNAIDS, 2002

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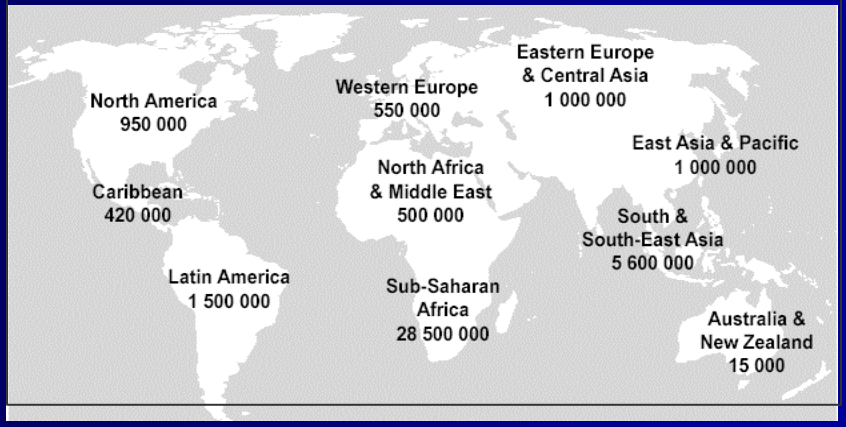
EXAMPLE 1 : GLOBAL ESTIMATES OF HIV/AIDS EPIDEMIC AS OF END 2001



Source: UNAIDS – Global HIV/AIDS Epidemic 2002 Report

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EXAMPLE 1 : TOTAL NUMBER OF ADULTS AND CHILDREN LIVING WITH HIV/AIDS : 40 MILLION

People newly infected with HIV in 2001	**Total**	**5 million**
	Adults	4,2 million
	Women	2 million
	Children <15 years	800 000
Number of people living with HIV/AIDS	**Total**	**40 million**
	Adults	37.1 million
	Women	18.5 million
	Children <15 years	3 million
AIDS deaths in 2001	**Total**	**3 million**
	Adults	2.4 million
	Women	1.1 million
	Children <15 years	580 000
Total number of children orphanedby AIDS, and living, end 2001**		**14 million**

** Defined as children aged 0-14, as of end 2001, who have lost one or both parents to AIDS.

Source: UNAIDS – Global HIV/AIDS Epidemic 2002 Report

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EXAMPLE 1 : CHANGING PATENT SYSTEMS TO DEAL WITH GLOBAL HEALTH CRISIS

- to make decisions in regard to the health crisis, policy and law makers require information on surrounding systems and international principles / obligations
  - patent rights for antiretroviral drugs in developing / least developed countries
  - pricing systems for antiretroviral drugs, eg drugs subject to vis-à-vis drugs without patent protection
  - membership, principles and obligations of TRIPS
  - the existence of compulsory licensing systems in trading partner countries
  - the restrictions applicable to compulsory licensing systems under TRIPS (eg Art 31(f))

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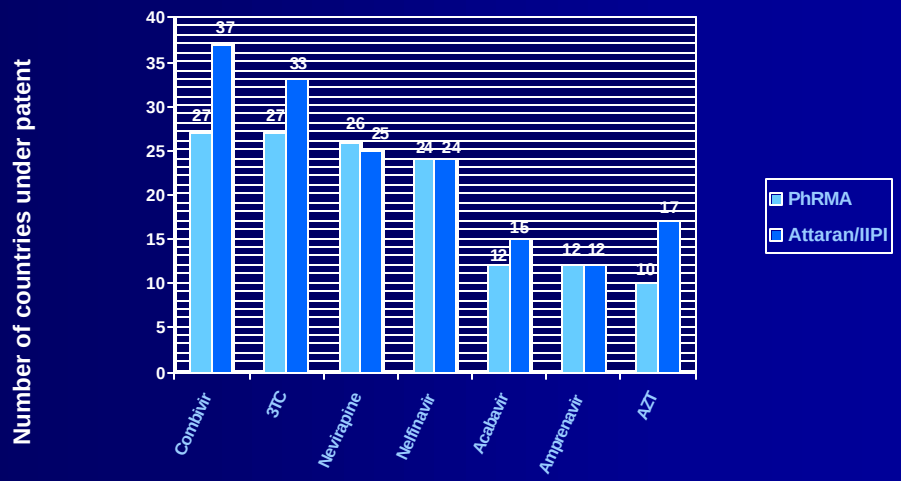
EXAMPLE 1 : PATENT RIGHTS FOR ARV DRUGS IN AFRICA



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EXAMPLE 1 : PRICING SYSTEMS FOR ARV DRUGS TRIPLE THERAPY ARV

Source: MSF (2002)

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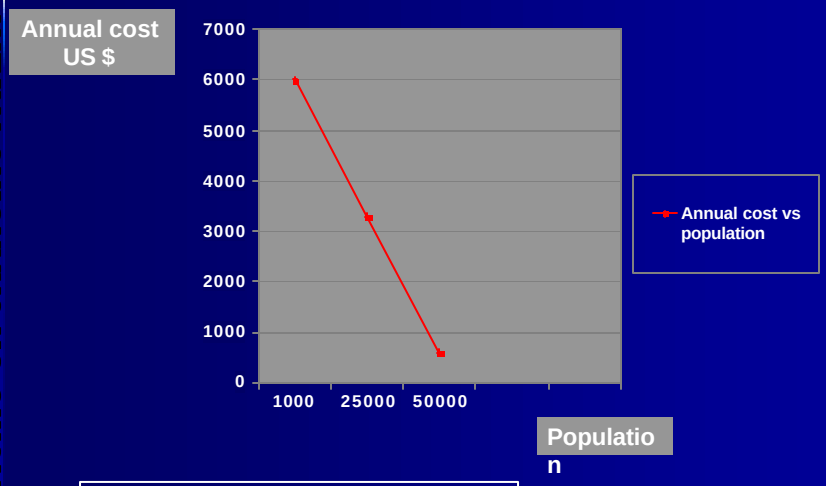
EXAMPLE 1 : PRICING SYSTEMS FOR TRIPLE THERAPY ARV DRUGS



Source: McKinsey Report (2000)

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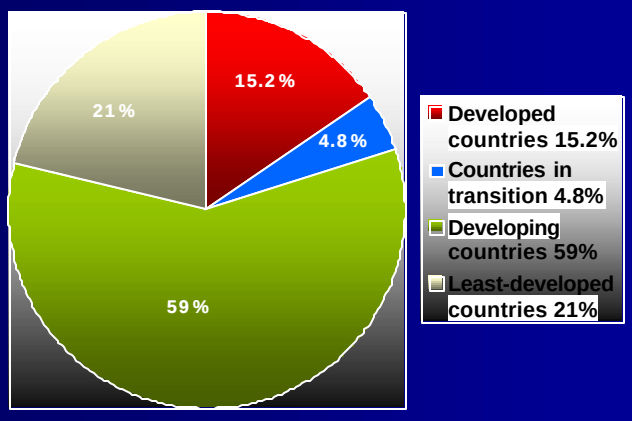
EXAMPLE 1 : WTO MEMBERSHIP AND THE GLOBAL HEALTH CRISIS



- no information on compulsory licence systems
- no information on restrictions in compulsory licence systems

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EXAMPLE 2 : CHANGING PATENT SYSTEMS TO DEAL WITH PATENTABILITY OF BUSINESS METHODS

- at present business method not patentable in all countries
- for changing patent systems, policy and law makers require information on existing circumstances and current developments
  - patentability of business methods in different countries
  - patenting rates of business methods in different countries

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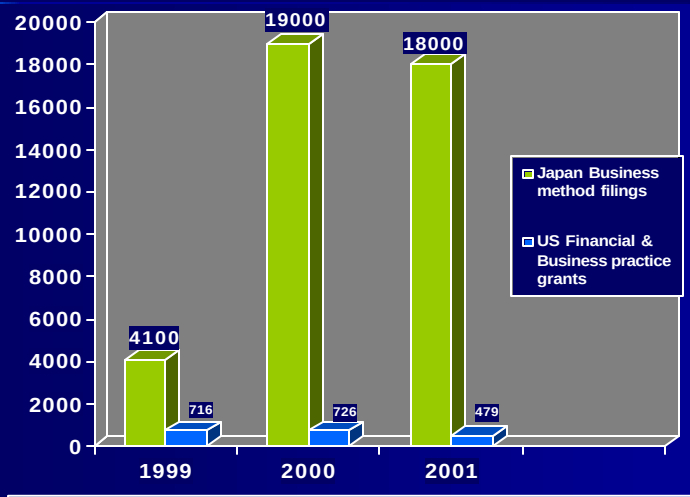
EXAMPLE 2 : PATENTING RATES OF BUSINESS METHODS



Source: JPO Examination Research Office (2002)
USPTO Information Products Division, TAF Branch (2003)

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EXAMPLE 2 : CHANGING PATENT SYSTEMS TO DEAL WITH PATENTABILITY OF BUSINESS METHODS

- in many cases mere numerical statistical information is not sufficient; comparative normative information is required
- policy and law makers require information on criteria for patentability in surrounding systems
  - information on international treaties (eg TRIPS)
  - information on legislative provisions, examination guidelines, directives in other countries
    - eg JPO examination guidelines and extended classification
    - eg EU draft directive and EPO guidelines
    - eg UK practice notes

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EXAMPLE 3 : IP STATISTICS AND INTERNATIONAL TREATIES

- policy makers for governments rely on statistical information to decide on accession to international treaties
  - how many countries have acceded to membership, preferably broken down into sector categories (eg developed, developing and least-developed countries)
  - how does membership of a treaty affect filing rates
  - how does membership of a treaty affect technology transfer, economic growth, increase in innovative / business activity

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EXAMPLE 3 : IP STATISTICS AND INTERNATIONAL TREATIES

- for example : accession to PCT
  - statistical information on annual PCT filings originating in individual countries
  - statistical information on annual designations of individual countries in PCT filings
- for example : accession to Madrid
  - statistical information on annual trade mark filings under Madrid originating in individual countries
  - statistical information on annual designations of individual countries in Madrid applications

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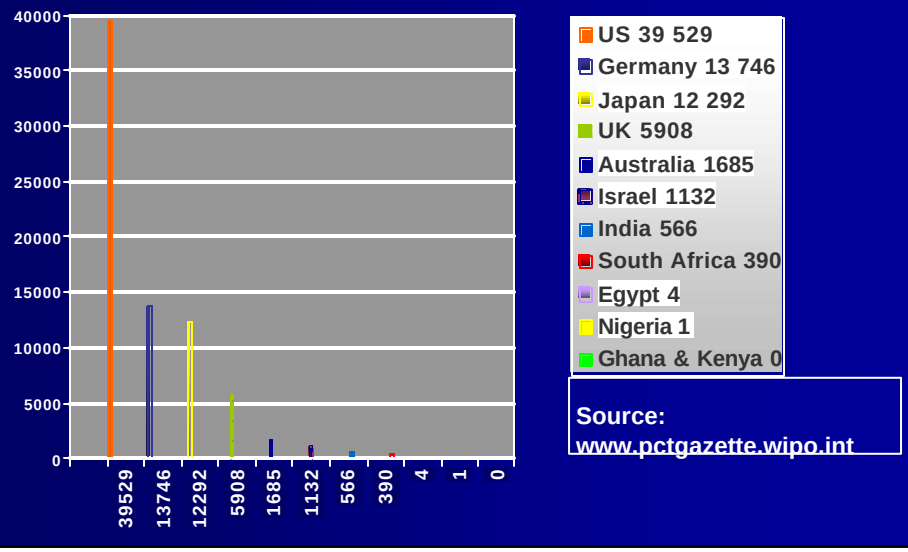
EXAMPLE 3: IP STATISTICS AND INTERNATIONAL TREATIES

PCT FILINGS FROM SELECTED COUNTRIES : 2002



Source: www.pctgazette.wipo.int

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STATISTICS AS A TOOL FOR POLICY MAKERS : IN CONCLUSION

- statistical information is an essential tool for policy and law makers in devising or changing patent (and IP) systems
- in particular IP-related statistics entail specific advantages
- however, statistical information must be
  - readily accessible, eg in integrated databases
  - updated regularly
  - broken down into relevant sector categories
  - capable of manipulation to extract specific trends
- WIPO may consider extending its international role and service by creating such statistical databases

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Thank you

for your attention