

**ENVIRONMENTALLY HARMFUL SUBSIDIES:
BARRIERS TO SUSTAINABLE DEVELOPMENT**

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HUGE LITERATURE EXISTS ON SUBSIDIES AND THE ENVIRONMENT:

- **DEFINITIONS**
- **SIZE**
- **EFFECTS**

MUCH SMALLER LITERATURE ON WHAT TO DO IN PRACTICE TO REDUCE THEM – THE ‘POLITICAL ECONOMY’ OF SUBSIDIES. BUT LOTS OF HISTORICAL EXPERIENCE ON WHICH TO DRAW

DEFINITIONS MATTER. FOR EXAMPLE, THE BASELINE PROBLEM. IS THE ABSENCE OF A TAX A SUBSIDY? AVIATION FUEL. DEFINITIONS DEPEND ON WHAT IS ASSUMED ABOUT THE ALLOCATION OF PROPERTY RIGHTS. ARE PAYMENTS FOR ENVIRONMENTAL SERVICES LEGITIMATE PAYMENTS FOR A GOOD THAT AN OWNER DOES NOT HAVE TO PROVIDE? OR ARE SUCH PAYMENTS EFFECTIVELY SUBSIDIES - RENTS APPROPRIATED BY POWERFUL INTEREST GROUPS WHO HAVE NO LEGITIMATE PROPERTY RIGHTS?

EFFECTS AND THEIR SCALE MATTER. SUBSIDIES ARE MULTI-PURPOSE. ADDRESSING THEIR ENVIRONMENTAL IMPACTS ALONE CAN OBSCURE TRADE-OFFS WITH OTHER SOCIAL OBJECTIVES. WE MUST KNOW HOW SERIOUS THE ENVIRONMENTAL IMPACTS ARE SO THAT INFORMED TRADE-OFFS CAN TAKE PLACE.

THE GRAND TOTAL MATTERS FOR THE ‘DEMONSTRATION’ EFFECT, SO DOES THE GEOGRAPHICAL AND SECTORAL ORIGINS OF SUBSIDIES:

- **PROBABLE \$1 TRILLION SUBSIDIES WORLD-WIDE**
- **70% OECD, 30% NON-OECD IN ABSOLUTE TERMS**
- **6% OF NON-OECD GNP, 3% OF OECD GNP**
- **OECD SUBSIDISES AGRICULTURE, FISHERIES, ENERGY, INDUSTRY**
- **NON-OECD SUBSIDISES ENERGY, WATER, FISHERIES**
- **OECD AGRICULTURAL SUBSIDIES = 30% GLOBAL SUBSIDIES**

MASSIVE TRADE-DISTORTION EFFECTS

**MASSIVE DETRIMENTAL EFFECT ON LDC EXPORTS AND
HENCE ON POVERTY – PROBABLY \$100 BILLION INCOME
LOSS P.A BECAUSE OF OECD SUBSIDIES. ENVIRONMENT
ALSO AFFECTED BY THIS IMPACT.**

MASSIVE DIRECT ENVIRONMENTAL DAMAGE.

**NEED FOR A COST-BENEFIT APPROACH TO SUBSIDIES AS A
LINK TO SUSTAINABLE DEVELOPMENT. NEED TO CONSIDER
GENERAL EQUILIBRIUM EFFECTS OF SUBSIDIES**

LINKING SUBSIDIES TO SUSTAINABLE DEVELOPMENT

A BRIEF SKETCH OF SUSTAINABILITY

- **SUSTAINABLE IS THAT WHICH LASTS**
- **CAN DEBATE THE TIME HORIZON OF CONCERN**
- **SUSTAINABILITY AS RISING PER CAPITA WELLBEING**
- **CONDITIONS FOR ACHIEVING SUSTAINABILITY**

PER CAPITA CAPITAL STOCK MUST RISE THROUGH TIME (THE 'CONSTANT WEALTH RULE'), HENCE

CAPITAL STOCK MUST RISE FASTER THAN POPULATION GROWTH

CAPITAL = MAN-MADE, HUMAN, SOCIAL AND NATURAL

PER CAPITA STOCKS COULD DECLINE SO LONG AS TECHNOLOGICAL CHANGE OFFSETS THE DECLINE

BASIC RULE FOR RISING PER CAPITA CAPITAL STOCK = PER CAPITA WEALTH MUST RISE THROUGH TIME :

$$\dot{k} > 0$$

or
$$\frac{K}{N} \left[\frac{S_g}{K} - n \right] > 0$$

WORK BY KIRK HAMILTON AND OTHERS AT THE WORLD BANK SUGGESTS THE FOLLOWING RESULTS FROM THIS APPROACH:

- **QUITE POSSIBLE FOR RICH NATIONS TO FAIL THIS SUSTAINABILITY TEST**
- **VERY SENSITIVE TO POPULATION GROWTH RATE, E.G. ABOVE 1.2% pa RISKS NON-SUSTAINABILITY**
- **SAVINGS RATES OF LESS THAN 10% OF GNP RISK NON-SUSTAINABILITY**
- **EASY FOR GNP TO BE GROWING AND FOR PER CAPITA WEALTH TO BE DECLINING**

THE SUBSIDIES – SUSTAINABILITY LINK

DIRECT EFFECTS ARE THOSE MOST USUALLY ANALYSED:

- **SUBSIDIES HARM S.D IF THEY REDUCE ONE OR MORE OF THE CAPITAL STOCKS, E.G. AGRICULTURAL SUBSIDIES AND WILDERNESS LOSS, POINT AND NON-POINT POLLUTION. OVER-FISHING. DEFORESTATION DUE TO ‘ABSENT TAX’ SUBSIDIES (FAILURE TO TAX CONCESSIONS)**
- **SUBSIDIES HARM S.D IF THEY INHIBIT TECHNOLOGICAL CHANGE: ‘LOCKING IN’ TO RESOURCE-INEFFICIENT PROCESSES**

BUT INDIRECT LINKAGES ALSO IMPORTANT AND VERY MUCH NEGLECTED IN THE SUBSIDY – ENVIRONMENT LITERATURE– E.G:

- **IS POPULATION GROWTH ENCOURAGED? DIRECT EFFECT ON WEALTH PER CAPITA, BUT INDIRECT EFFECT VIA LOSS OF ENVIRONMENTAL CAPITAL AS WELL**
- **IS POVERTY ENCOURAGED SUCH THAT POVERTY IN TURN ENCOURAGES ENVIRONMENTAL LOSSES? OECD SUBSIDIES HARM LDCs VIA TRADE EFFECTS. POVERTY INDUCES ENVIRONMENTAL LOSS VIA COPING STRATEGIES, HIGH DISCOUNT RATES, ‘MINING’ OF RESOURCES TO SECURE FOREIGN EXCHANGE ETC.**
- **PROTECTIONISM INHIBITS TECHNOLOGICAL CHANGE WHICH COULD BRING GAINS IN NATURAL RESOURCE PRODUCTIVITY, E.G. BY LOWERING ENERGY-OUTPUT AND MATERIALS-OUTPUT RATIOS.**

- **SUBSIDIES ENCOURAGE NATURAL CAPITAL DEPLETION –E.G. AIR AND WATER POLLUTION. BOTH DAMAGE HUMAN CAPITAL THROUGH ENVIRONMENTALLY-RELATED DISEASES. CONSERVATIVE ESTIMATE SUGGESTS THAT ENVIRONMENTALLY-INDUCED HEALTH DAMAGES REDUCES HUMAN CAPITAL VALUE BY 5-7%. SUBSIDIES NOT SOLELY RESPONSIBLE BUT PLAY A LARGE ROLE.**
- **POSSIBLE FURTHER ‘VICIOUS CIRCLE’ EFFECT. MORE HUMAN CAPITAL, MORE ENVIRONMENTAL PROTECTION? IF SO, SUBSIDIES REDUCE ENVIRONMENTAL CAPITAL WHICH HARMS HUMAN CAPITAL WHICH HARMS ENVIRONMENTAL CAPITAL.**
- **SUBSIDIES DESTROY SOCIAL CAPITAL BY CREATING RENTS WHICH INDUCE CORRUPTION AND UNPRODUCTIVE ACTIVITY. TRUST DECLINES. THE LOWER IS SOCIAL CAPITAL, THE LESS ENVIRONMENTAL PROTECTION THERE IS: E.G. THE DESTRUCTION OF LOCAL COMMON PROPERTY REGIMES.**

CONCLUSIONS

- **WORK ON SUBSIDIES, THE ENVIRONMENT, AND SUSTAINABLE DEVELOPMENT IS OF THE UTMOST POLICY RELEVANCE**
- **THE DIRECT LINKS FROM SUBSIDIES TO ENVIRONMENTAL DAMAGE ARE WELL DOCUMENTED, EVEN IF DIFFICULT TO QUANTIFY**
- **THE INDIRECT LINKS HAVE BEEN FAR LESS APPRECIATED AND UNDERSTOOD**
- **THERE ARE LINKS FROM SUBSIDIES TO HUMAN CAPITAL LOSS VIA ENVIRONMENTALLY-INDUCED DISEASES. HUMAN CAPITAL LOSS PROBABLY LINKED TO REDUCED ENVIRONMENTAL CAPITAL. VICIOUS CIRCLE.**
- **THERE ARE LINKS FROM SUBSIDIES TO SOCIAL CAPITAL LOSS VIA CORRUPTION, AND HENCE A FURTHER LINK TO ENVIRONMENTAL DAMAGE DUE TO THE DECLINE IN COMMUNAL RESOURCE MANAGEMENT. ANOTHER VICIOUS CIRCLE.**
- **THERE ARE LINKS FROM SUBSIDIES TO SLOW RATES OF TECHNOLOGICAL CHANGE WHICH IN TURN LOCKS ECONOMIC SYSTEMS INTO LOW NATURAL RESOURCE AND ENVIRONMENTAL PRODUCTIVITY.**

THE IDEAL WILL BE TO MAP OUT THESE INTERACTIONS AND DETERMINE THEIR SIGNIFICANCE. THIS IS THE ‘GRAND VISION’ BUT IT CANNOT BE DEVELOPED WITHOUT THE PAINSTAKING WORK OF DEFINITION AND MEASUREMENT, ESTABLISHING CRITERIA FOR IDENTIFYING HARMFUL SUBSIDIES, AND METHODOLOGIES FOR MEASURING DIRECT ENVIRONMENTAL EFFECTS. THIS IS THE SUBJECT OF THIS WORKSHOP.

CONGRATULATIONS TO THE OECD ON ITS PIONEERING AND CONTINUING WORK IN THIS AREA.

