Transfer Effects and Economic Welfare

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1. Purpose…(1)

- <u>Given reduced locally caught swordfish</u>:

- What are impacts on consumer and producer welfare, employment, and communities?
- Can local harpoon-caught swordfish fill the consumption gap?

1. Purpose…(2)

- What are implications of reduced local catch and increased imports for net sea turtle mortality?
  - Transfer effects.
- Jenny Sun 2011 econometric analysis of west coast consumer demand for swordfish.

2. Background

Swordfish Imports are Critical for U.S.

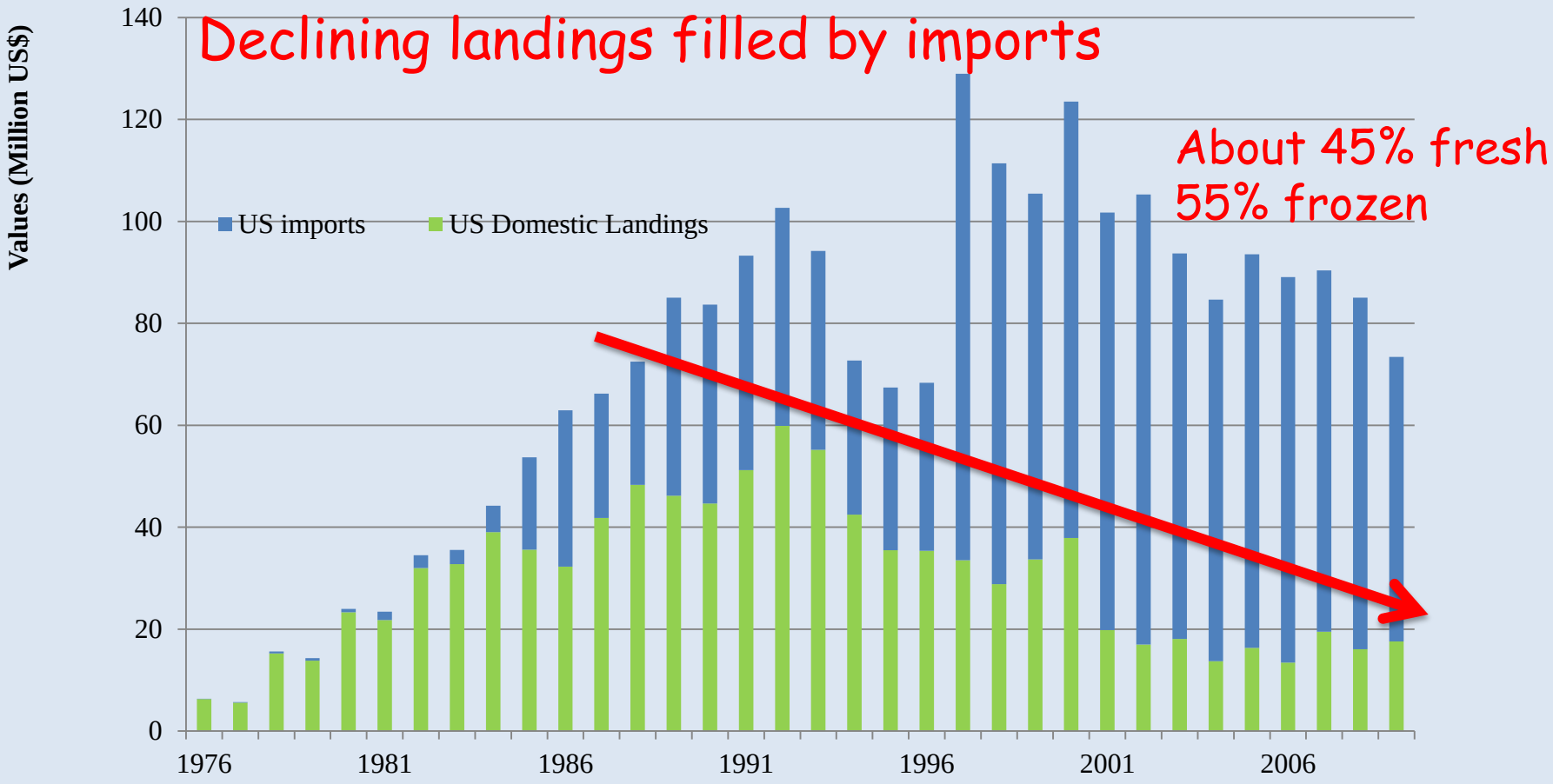
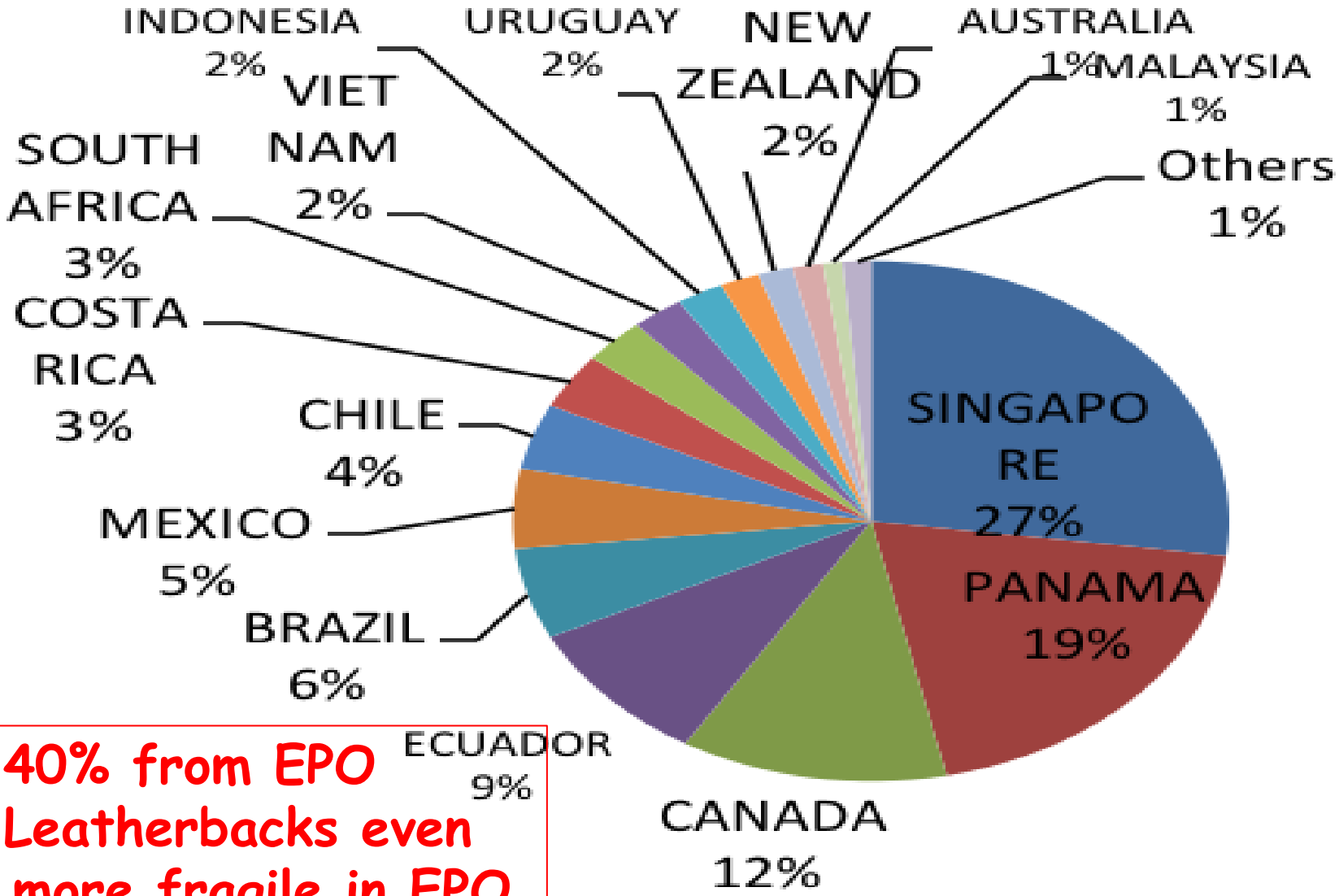


Fig. 3b. US Swordfish Landings Values and Imports Values



- 40% from EPO
- Leatherbacks even more fragile in EPO than WCPO

Fig . 22 Swordfish Imports in US in 2008 (Product Weight)

Swordfish Consumption Rising Outside U.S.

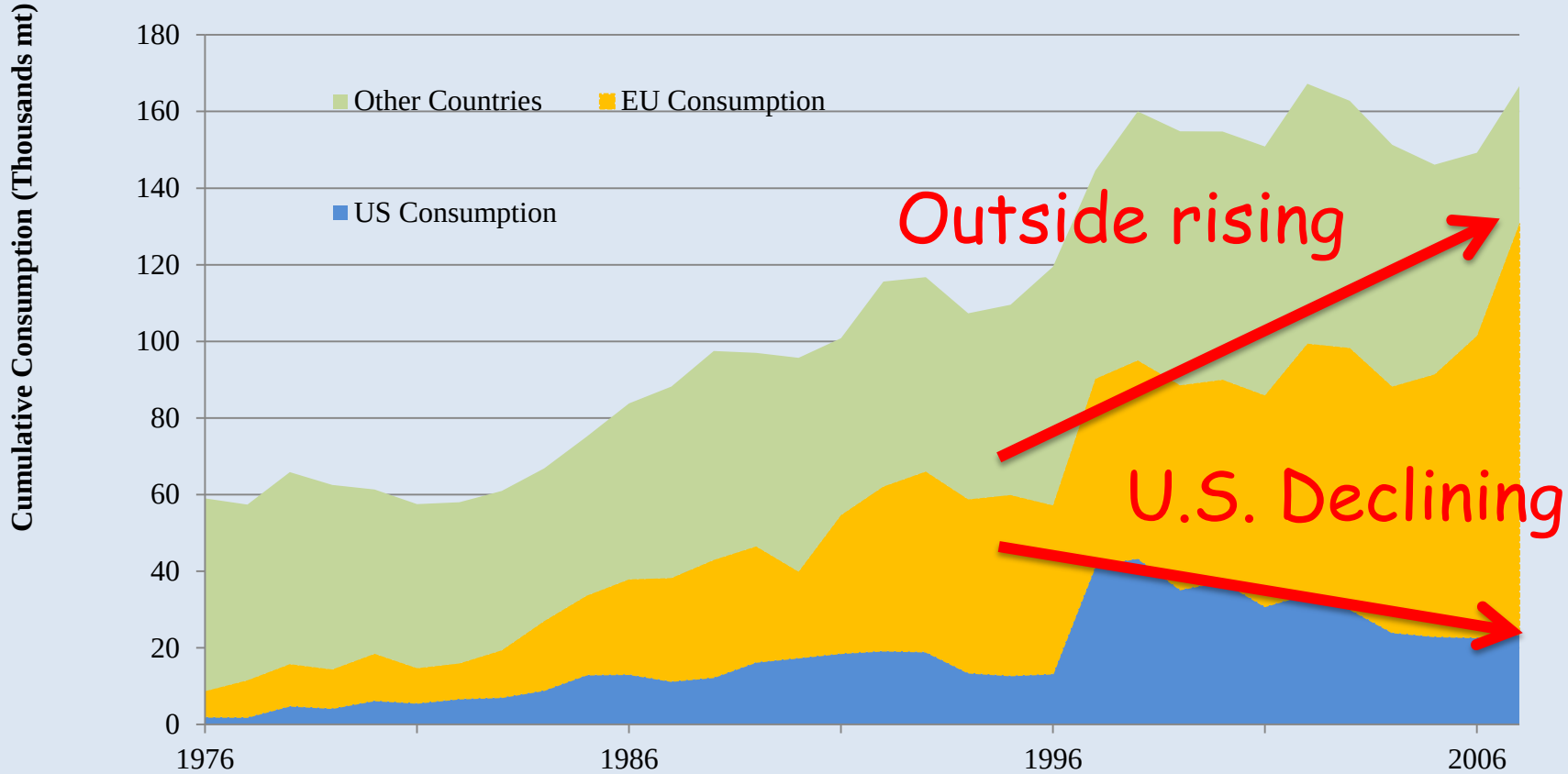


Fig. 2 Swordfish Consumption in the US, EU and Other Countries

3. Results

3.1. Harpoon-Caught Swordfish

- Harpoon and gillnet swordfish serve two separate markets
- Harpoon-caught swordfish does <u>not</u> fill consumption gap caused by lower local landings
- Imports fill the gap
  - But about 55% imports frozen, not local and fresh

3.2. Imports of Hawaii-Caught Swordfish

- Fill some of consumption gap.
- Lower net turtle mortality only if lower turtle mortality per pound of swordfish in Hawaii.

3.3. Imports of Pacific Swordfish to West Coast

- Strong substitute in consumption for West Coast and Hawaii swordfish.
- West Coast and Hawaii are ESA-regulated, foreign fleets are not.

3.4. Net Impact on Sea Turtle Mortality

- Lower West Coast landings:
  - Reduce turtle mortality
- Increased foreign supply to U.S. markets:
  - Increase turtle mortality
- Net impact unknown

4. U.S. Net Benefits

4.1. Fisher Welfare Losses

- Fishers worse off because of lower landings, employment, way of life, and profits.
- Loss in West Coast employment and viability of communities and ports.

4.2. Reduced Pacific Coast Landings:…(1)

- Loss in consumer and supply chain producer welfare from less locally caught, fresh swordfish.
  - Consumers, processors, suppliers, transporters
- Harpoon-caught swordfish cannot substitute in consumption for swordfish from other gear types.
- Imports fill gap of reduced Pacific coast swordfish landings

4.2. Reduced Pacific Coast Landings:…(2)

- Fail cost-benefit test that U.S. net benefits must not decline……
- Unless lower turtle mortality from foreign fleets that gives:
- (1) net decline in sea turtle mortality and
- (2) gain in U.S. existence value offsetting U.S. consumer and producer welfare losses
- Plus accounts for EPO leatherback mortality

4.3. Welfare Impact of Restricting Imports

- Lower imports reduce US welfare
  - (less fish available for consumption)
- Net gain in welfare requires gain in existence value from any lower turtle mortality to exceed this U.S. welfare loss
- But requires:
- (1) lower foreign fleet turtle mortality and
- (2) little or no redirection of former imports to other (and growing) markets

5. Conclusions

Net Gains Unclear (But Unlikely)

- U.S. consumers, producers, communities, and sea turtles are worse off……
- Unless "substantial" and offsetting gains in existence value from net reduction in turtle mortality by foreign fishers.
- All hinges on size and direction of transfer effects.

Thanks!.....Any Questions?