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***Market Analysis of Alaska Groundfish
Fisheries: Alaska Pollock, Pacific Cod,
and Atka Mackerel***

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Overview

- ◆ Purpose and Scope
- ◆ Market and Industry Structure, Recent and Future Trends
 - Alaska Pollock
 - Pacific Cod
 - Atka Mackerel
- ◆ Econometric Models
- ◆ Impacts of Protective Measures

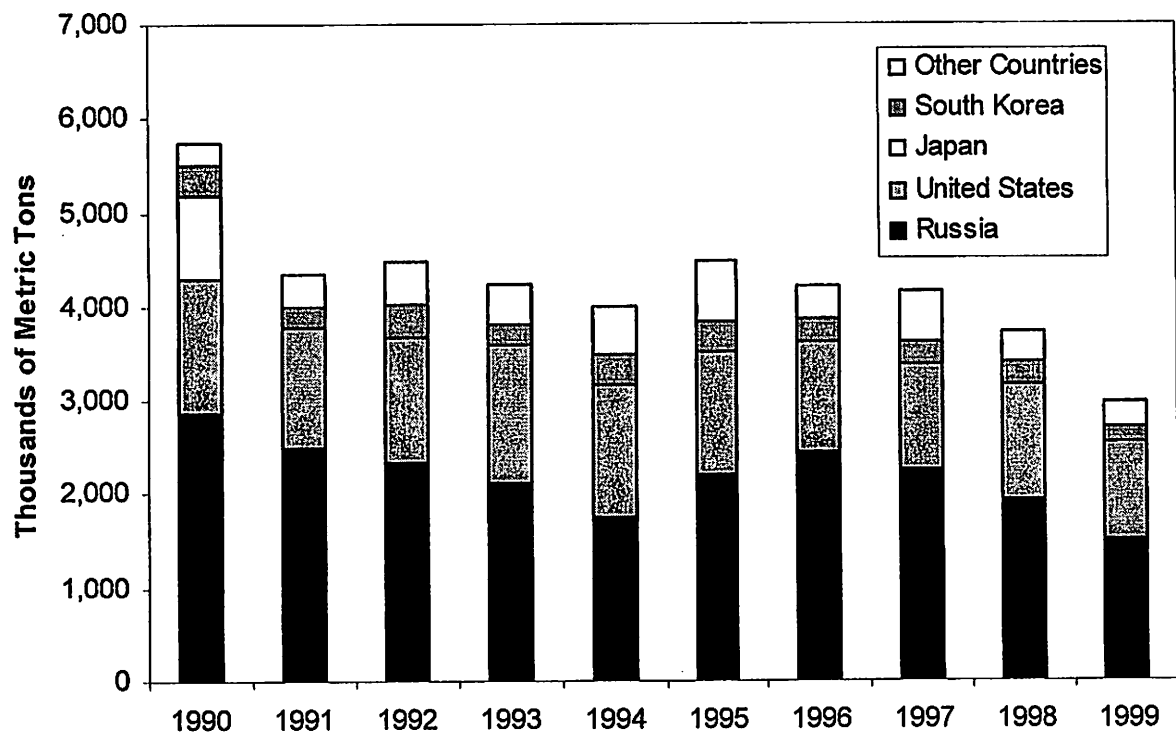
Alaska Pollock

- ◆ Harvests
 - *Importance of Russian Stocks*
- ◆ Primary Product Forms
 - Surimi
 - Roe
 - Fillets
- ◆ Recent and Future Trends

Harvests of Alaska Pollock

- ◆ Averaged 1.1 million MT in recent years, but more than 1.2 million MT in 2000
- ◆ Foreign and U.S. harvests compete internationally
- ◆ Russian stocks account for half of worldwide harvests....
- ◆ However, harvests from Russian waters are declining

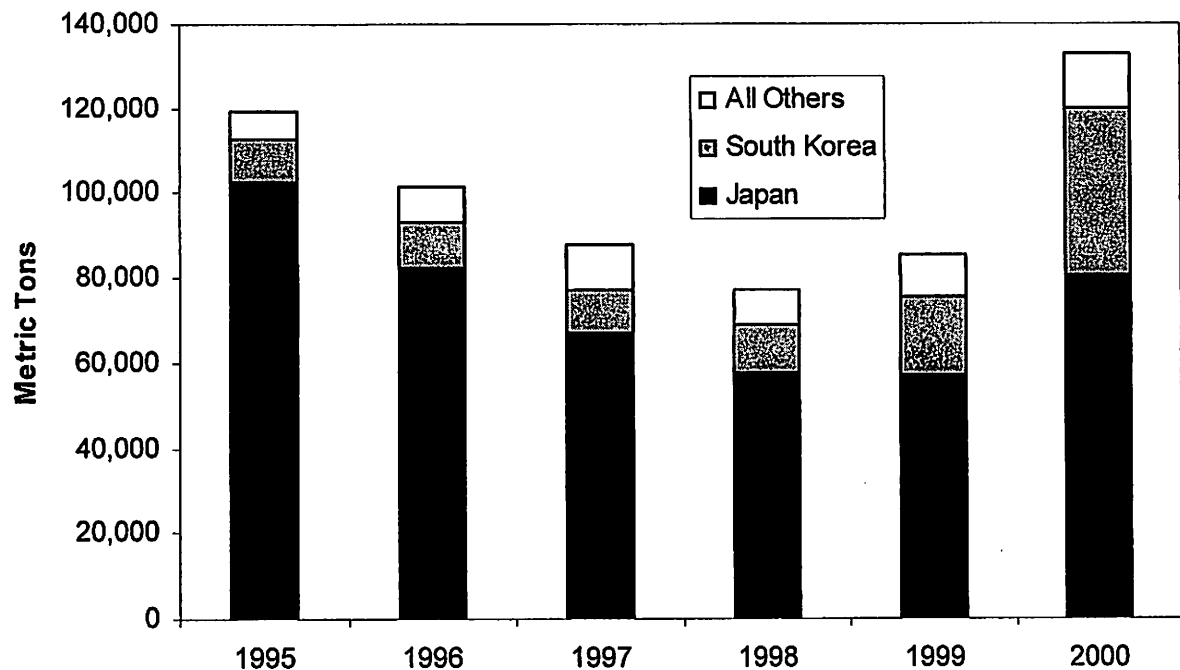
World Harvests of Alaska Pollock



Surimi

- ◆ 51% of product volume and 50% of product value
- ◆ Mostly exported to Japan, but some to South Korea and Europe
- ◆ Gradually declining demand for surimi in Japan....
- ◆ However, U.S. is increasing market share

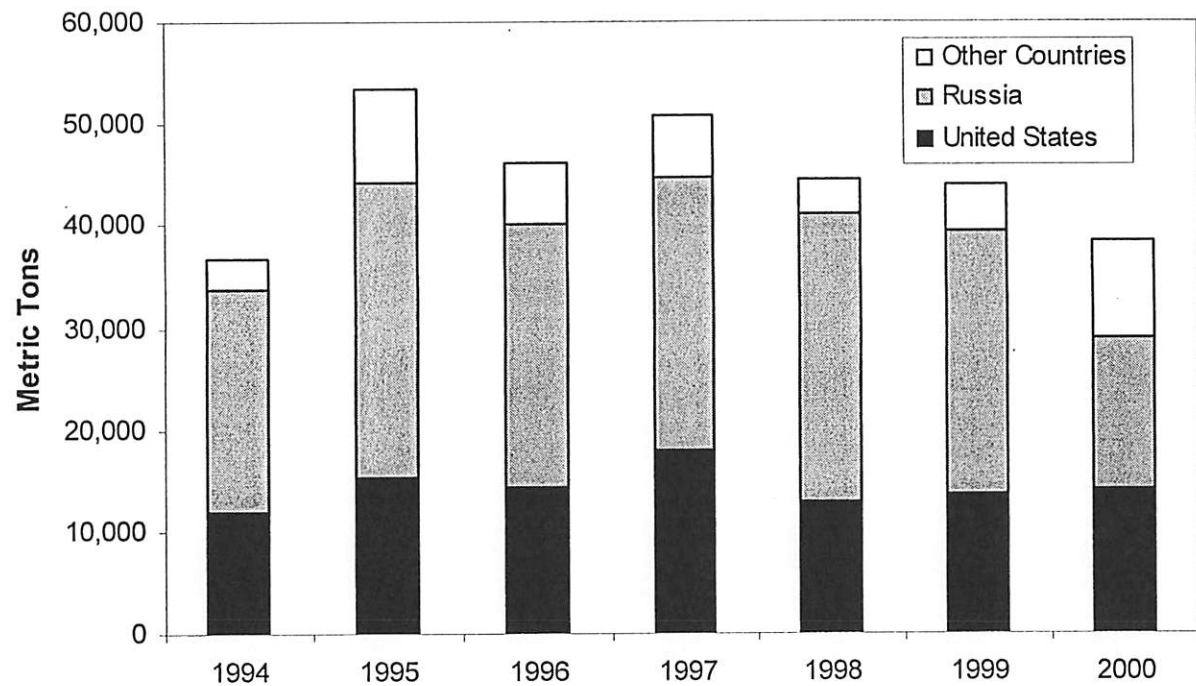
U.S. Exports of Alaska Pollock Surimi



Roe

- ◆ 5% of product volume and 22% of product value
- ◆ Nearly all roe are exported to Japan
- ◆ Decline in Russian supplies have led to gains in market share by the U.S.

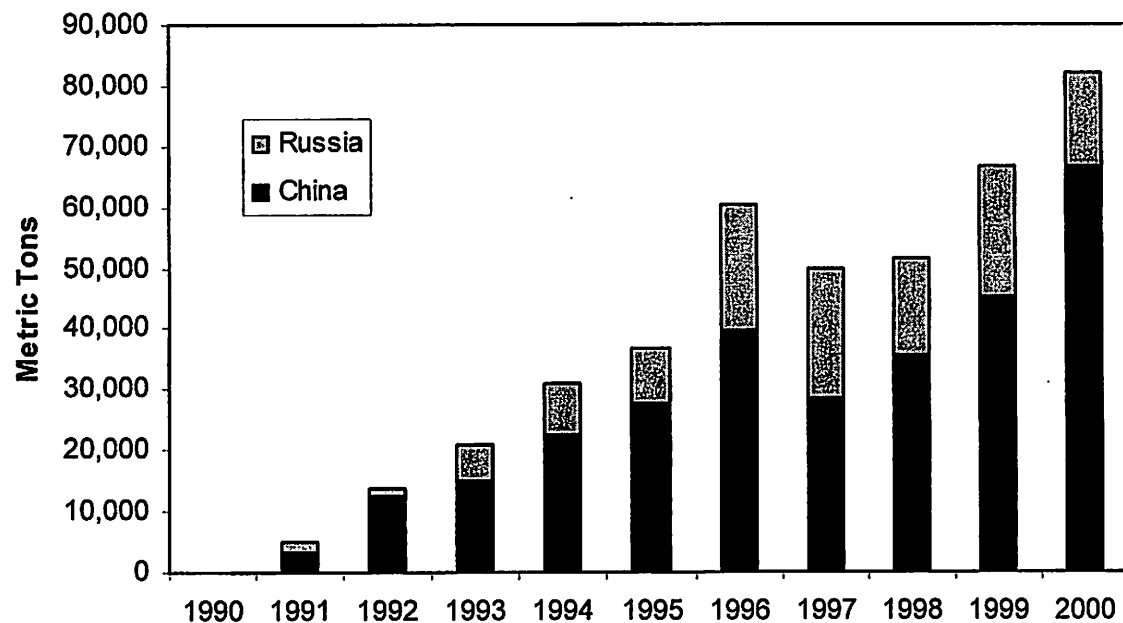
Japanese Roe Imports by Country



Fillets

U.S. Imports of Frozen Fillets and Blocks from Russia and China

- ◆ 19% of product volume and 22% of product value
- ◆ Regular: casual restaurants, frozen and breaded
- ◆ “Deep-skin”: dominant whitefish for “quick service” restaurants
- ◆ Primarily domestic market
- ◆ Importance of “twice-frozen” imports from China



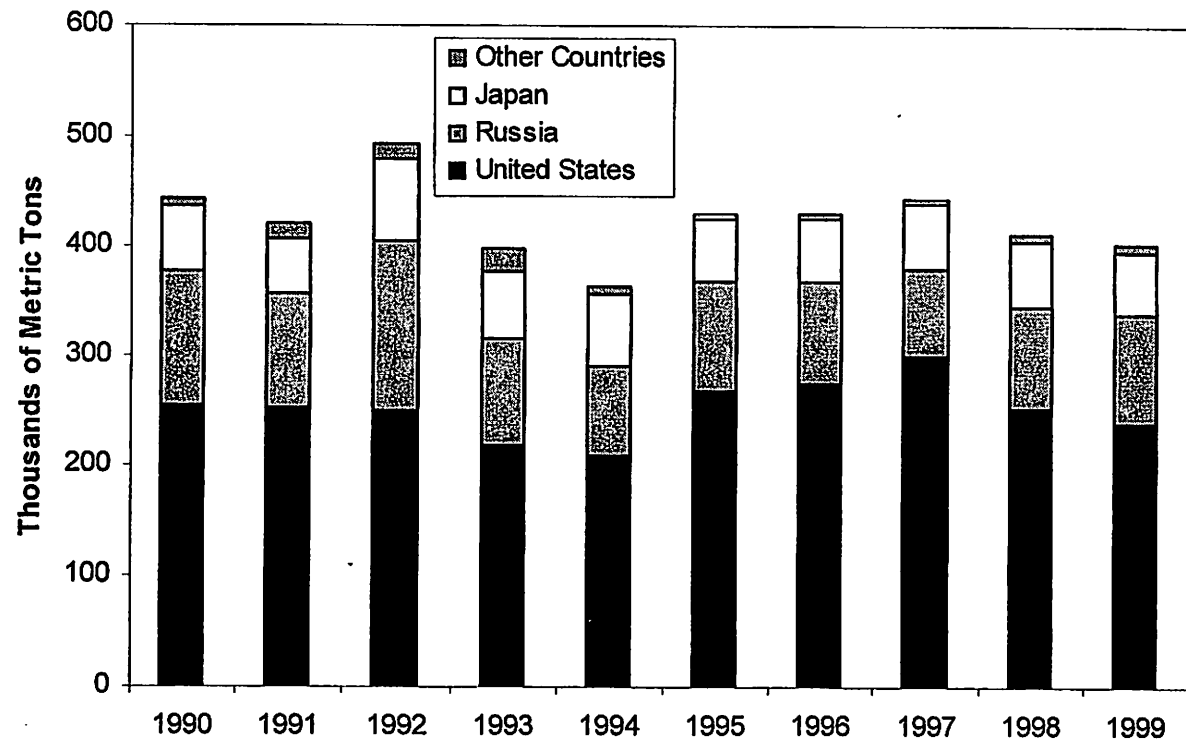
Pacific Cod

- ◆ Harvests
- ◆ Primary Product Forms
 - Headed and Gutted (H&G)
 - Fillets
- ◆ Recent and Future Trends

Pacific Cod

- ◆ Product forms are varied, and enter both domestic and international markets
- ◆ H&G exported to Japan, Europe, and S. Korea, or retained in the U.S.
- ◆ Fillets are primarily used in the U.S.
- ◆ U.S. is a net importer of fillets

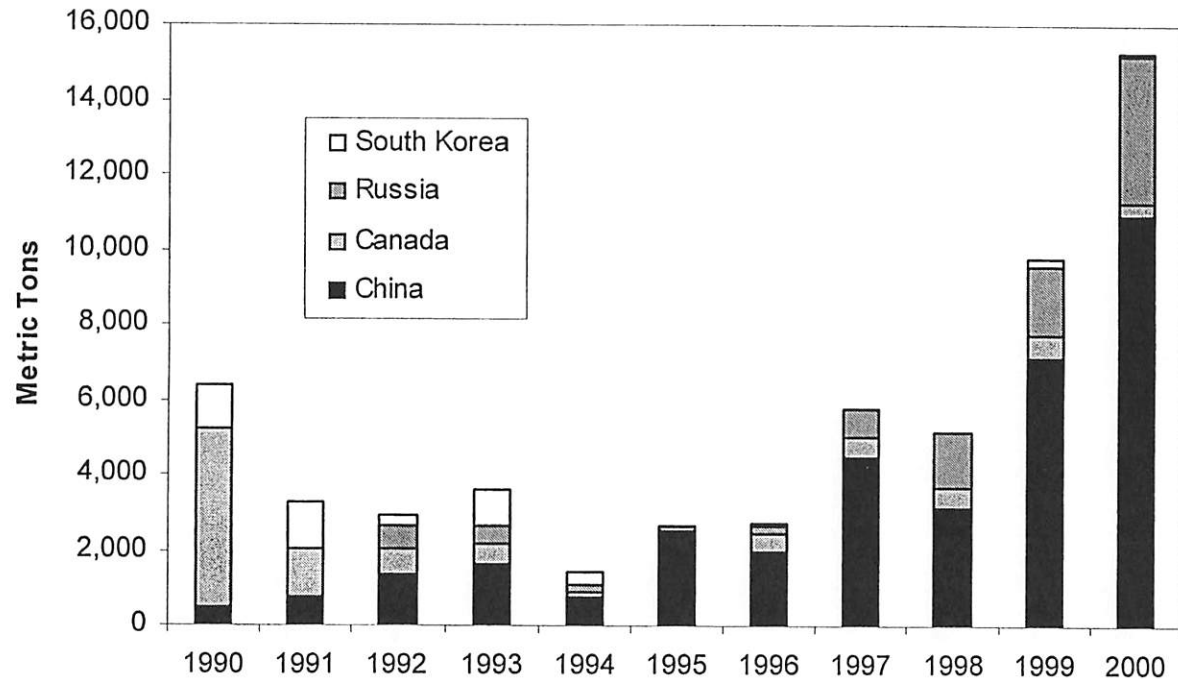
World Harvests of Pacific Cod



Pacific Cod

- ◆ Atlantic cod has declined in availability -- an opportunity for Pacific cod?
- ◆ They are substitutes, but only to a degree
- ◆ Imports of "twice-frozen" cod fillets from China have grown annually
- ◆ Aquaculture-grown whitefish are also increasing

U.S. Imports of Pacific Cod Fillets



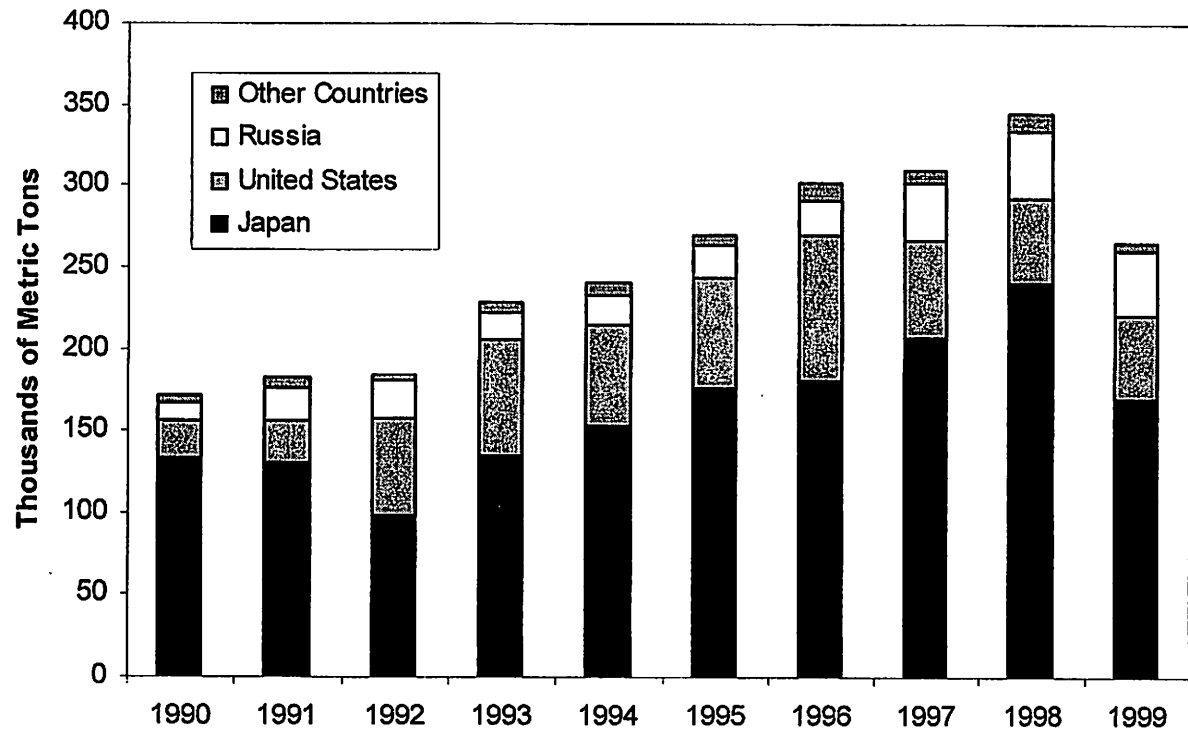
Atka Mackerel

- ◆ Harvests
- ◆ Product Forms
- ◆ Recent and Future Trends

Atka Mackerel

- ◆ Harvests peaked at 88,000 MT in 1996; only 42,000 MT in 2000
- ◆ Exported to Japan and South Korea
- ◆ World harvests dominated by Japan
- ◆ Declines in Japanese harvest provide market share opportunity for U.S.

World Harvests of Atka Mackerel



Econometric Models

- ◆ Purpose

- *To quantitatively measure impacts of policy changes on the market*

- ◆ What economic theory suggests

- ◆ Models for Alaska pollock product forms

- ◆ Preliminary findings and limitations

- ◆ Modeling considerations for Pacific cod and Atka mackerel

Economic Theory and Pollock Markets

- ◆ Numerous past groundfish economic models, but few that are relevant
- ◆ Recent institutional changes (such as the AFA) make prediction of future impacts difficult
- ◆ International market demand and supply are essential elements
- ◆ Complex product mix decisions and market channels
- ◆ Surimi and fillets should be modeled jointly

Surimi and Fillets Model

- ◆ Simultaneous Equations Econometric Model:
 - 7 equations, 2 identities
 - Monthly data for the period 1994 through 2000
 - Estimates price and quantity of surimi exports, price and quantity of fillets produced, and quantity of pollock “twice-frozen” fillet imports
 - Incorporates variables for:
 - landings, prices of substitutes, inventories, AFA, household income, foreign exchange rates, population, Japanese consumption patterns

Surimi and Fillets Model

◆ Preliminary Findings:

- Model explains product flows fairly well
- Predictive ability is good for fillets, less so for surimi
- Nearly all variables were consistent with theory

◆ Model Limitations:

- U.S. export and Japanese import data inconsistent
- Domestic fillet consumption statistics not available
- Separation of market segments for fillets needed

◆ Model Needs:

- Incorporation of more Japanese data
- Better definition of fillet disappearance

Impacts of Protective Measures

- ◆ Qualitative Impacts and Use of the Economic Models
- ◆ Categories of Market Impacts Considered
 - Product Mix and Quantity of Products Supplied
 - Balance of Trade
 - Prices
 - Market Share

Product Mix and Quantity Supplied

◆ Alternative 2:

- Reduced supply of Alaska pollock product forms
- Shift in product mix from fillets to surimi
- Roe harvest reduced as much as 50%
- Permanent loss in revenue could cause the fishery to cease
- Weakened supply of Pacific cod fillets to domestic and international market
- Probable cessation of the Atka mackerel fishery

Product Mix and Quantity Supplied

◆ Alternative 4:

- Small reduction in supply of Alaska pollock products
- No noticeable change in product mix
- Reduced supply of pollock fillets is not likely to be felt by U.S. consumers
- Negligible effect on supply of Pacific cod fillets
- Slight reduction in supply of Atka mackerel products; no change in product mix

Balance of Trade

◆ Alternative 2:

- Significant impact on balance of trade due to lost exports of surimi and roe
- Substantial losses if the pollock fishery is abandoned
- Fewer exports, more imports of cod or substitutes
- Loss of export revenue from Atka mackerel

◆ Alternative 4:

- Some loss of export revenues from pollock surimi and roe, and Atka mackerel products

Prices

◆ Alternative 2:

- Surimi prices will increase, affecting relatively new markets
- Large increase in roe prices
- Some price effect on both pollock and Pacific cod fillets; substitution to other products is likely
- Atka mackerel prices will increase

◆ Alternative 4:

- Roe prices will increase; prices for other products will remain virtually unchanged

Market Share

◆ Alternative 2:

- Loss of market share for pollock fillets will be substantial; less so for surimi and roe
- Substantial loss of market share for Pacific cod
- Potential full loss of market share for Atka mackerel

◆ Alternative 4:

- No change in market share