New Zealand's Agricultural Transformation: Embracing a Free-Market Approach and Assessing the Outcomes

Hawaii Department of Agriculture

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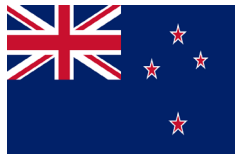


1: Background

Background

- Farm subsidies were virtually non-existent in New Zealand (NZ) during the 1950s and 1960s.
- During the same period, NZ enjoyed a preferential trade agreement with the United Kingdom (UK), and traded more than half of its production, specifically in butter and mutton (sheep meat).
- Unfortunately, the OPEC oil shocks in the 1970s caused NZ to suffer high budget deficits given its dependence on imported oil, the collapse in commodity prices, and the loss of guaranteed market access when the UK joined the European Economic Community (EEC).
- New Zealand could not sustain its budget deficits indefinitely and required policy reform in agriculture.

2: Policy Reform in Agriculture

Policy Reform in Agriculture

What was introduced?

- To reverse its fiscal deficits, NZ introduced agricultural support to encourage farmers and ranchers to boost production.
- A variety of agricultural support policies were introduced - embracing mechanisms such as minimum price support for commodities, subsidies for factor inputs, low-interest loans, tax incentives, debt restructure and write-offs.

Did the reform work?

- The policy reform led to some less than desirable results.
- The government felt farmers and ranchers became less responsive to market signals, including demand for products, less innovative, and less efficient use of available resources.

Policy Reform in Agriculture

Policy Outcomes?

- The NZ government felt the agricultural support encouraged some inappropriate business practices and policy outcomes.
- Some producers developed farmland that turned out to be unprofitable without government subsidies.
- As the subsidies were capitalized into land prices, fewer young farmers could afford to buy land at increasing value over time.
- Productivity also decreased as support payments provided a secure income to farmers without the need to innovate.

3: Policy Reform II – Free Market Approach

Policy Reform II – Free Market Approach

Policy Revisions

- In the early 1980s, NZ experienced far higher fiscal costs. The agriculture sector was becoming increasingly uncompetitive, and resources were increasingly misallocated within the industry.
- In 1984, NZ implemented extensive free market reforms which led to the restructuring, privatization, and tight control of monetary policy. It was known as "*Rogernomics*."
- The objectives for additional reform with respect to agriculture were to create a level playing field, and to treat farming like any other commercial enterprise.
- The extensive market reforms removed virtually all price support payments for farmers to reduce fiscal deficits, tight monetary policy to curb inflation, and the exchange rate was allowed to free-float from its overvalued state.

Policy Reform II – Free Market Approach

Effects and Growing Pains

- The revised market reforms inflicted widespread economic effects on agriculture and the rural economy.
- Farm sales, incomes, and land values declined. Farm debt and input costs spiked. Some farmers abandoned farming altogether.
- The adverse economic effects spread to other rural businesses, and many closed as a result. The unemployment rate ballooned, and some rural towns experienced declines in population.
- Despite the difficult policy environment, the government reported few farmers abandoned farming with only one percent taking exit packages, and five percent leaving the land from 1985 to 1989.
- About 20 percent of total rural debt was written-off and about six percent of farms were sold. The number of farms lost were much less since most farms were sold to other farmers (consolidation).

Source: New Zealand Ministry of Primary Industries, 2017

4: Stylized Facts Post-Reform

Stylized Facts Post-Reform

Change in Land Area (2002-2019)

- While farm counts and farmland area declined, irrigated agricultural land increased by 91 percent. Agricultural and horticulture land acreage and dairy farm acreage also expanded significantly during the period, 2002-2019.

Metric	2019	2002	Change
Farm Counts (Number)	49,530	69,510	-29%
Farmland Area (Acres)	33,496,102	38,507,016	-13%
Irrigated Agricultural Land Area (Acres)	1,815,450	948,480	91%
Land Area (Acres)			
Agricultural & Horticulture	327,811	270,297	21%
Farm Forestry	3,946,954	4,418,805	-11%
Dairy Farming	5,487,004	3,039,295	81%
Beef Farming	6,715,725	9,825,964	-32%
Sheep Farming	10,131,448	14,274,557	-29%

Stylized Facts Post-Reform - 2

Change in Livestock Counts (2002-2019)

- Reflecting the sharp increase in dairy farming acreage, the livestock counts of dairy cattle were 21 percent higher during the period, 2002-2019.

Livestock Counts (Number)	2019	2002	Change
Dairy Cattle	6,260,895	5,161,589	21%
Beef Cattle	3,889,996	4,491,281	-13%
Sheep	26,821,846	39,571,837	-32%
Deer	810,443	1,647,938	-51%

Data source: Stats NZ. Agricultural Production Survey

Stylized Facts Post-Reform - 3

New Zealand's Top 10 Exports, 2022

- Leading export products by value in 2022 were condensed milk, cream, butter, sheep/goat meat, frozen beef, and rough wood.

Top 10 Export Products

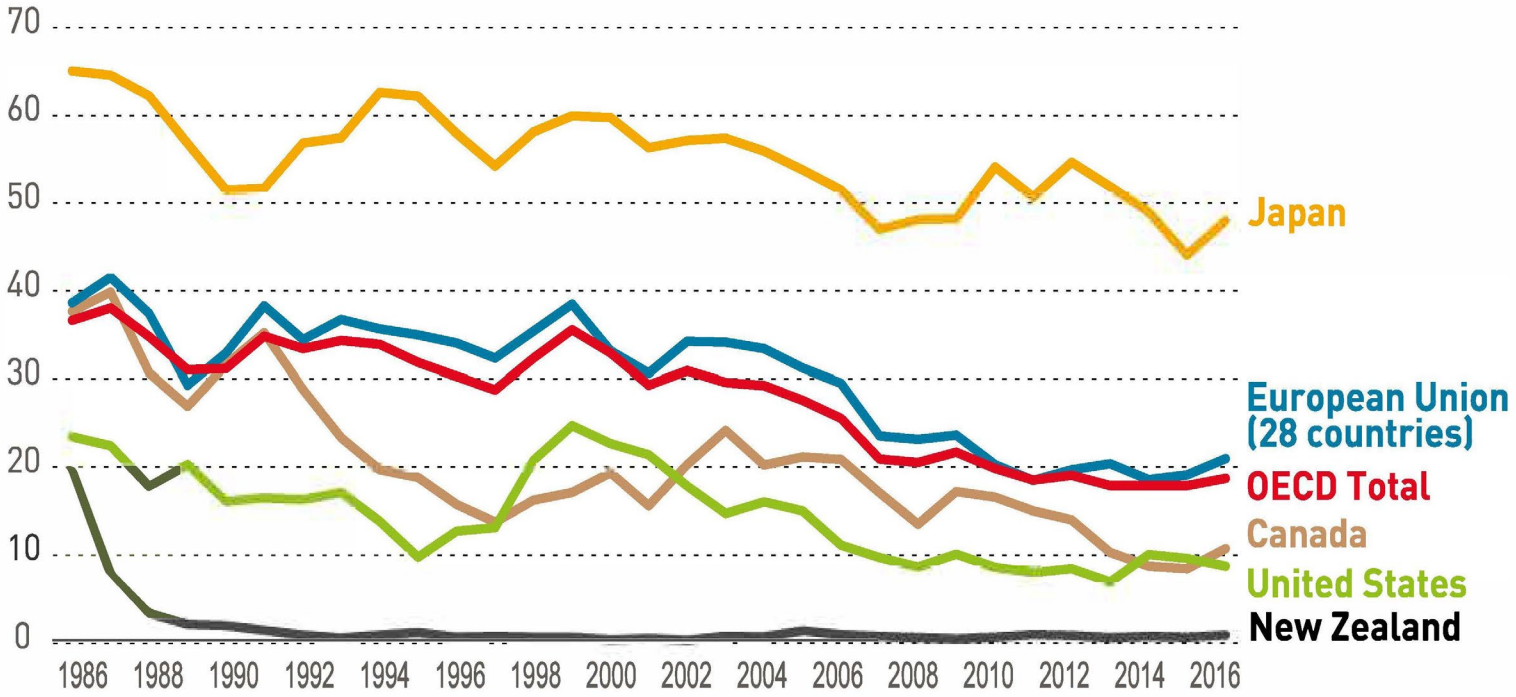
- Dairy, eggs, honey: US$13.4 billion (30.4% of total exports)
- Meat: $6.3 billion (14.3%)
- *Wood: $3.3 billion (7.6%)*
- Fruits, nuts: $2.4 billion (5.6%)
- *Beverages, spirits, vinegar: $1.63 billion (3.7%)*
- *Modified starches, glues, enzymes: $1.56 billion (3.6%)*
- Cereal/milk preparations: $1.55 billion (3.5%)
- Fish: $1.15 billion (2.6%)
- *Machinery including computers: $1.13 billion (2.6%)*
- *Aluminum: $1.05 billion (2.4%)*

Source: Worldstopexports.com, 2023

Stylized Facts Post-Reform - 4

New Zealand had the lowest level of agricultural subsidies in the OECD

Figure 1: OECD estimate of Government support for producers (% of gross farm receipts), 1986–2016



Source: OECD – July 2017

5: Assessment

Assessment

Overview

- New Zealand's agricultural success story is a fascinating one - shaped by a combination of policy reforms, geographical advantages, innovation[1], diversification, and strategic trade practices.
- The revised market reforms undertaken in the mid-1980s, inflicted widespread economic effects on agriculture and the rural economy.
- Stylized facts revealed that farm counts and farmland area declined, resulting from the reform. Composition of commodities produced also changed towards those that are more globally competitive (dairy and wine grapes).
- Livestock counts of sheep and deer were down sharply by a third to one-half during the 2002-2019 period reviewed.

[1] See Appendix 1

Assessment - 2

Policy Reform

- The decision to transition to a competitive, free market model in the mid-1980s marked a pivotal moment in NZ's agricultural history. By shifting away from heavy government subsidies and regulations, NZ incentivized its farmers to become more market-focused, which ultimately made the industry more competitive, responsive, and less reliant on taxpayers' money.
- NZ is seen by some to have debunked the myth that agriculture isn't sustainable without government subsidies.
- NZ continues to support its agriculture industry by providing government funds for land erosion control and emergency funds to help farmers recover from natural disasters such as floods, droughts, and earthquakes.
- The government further provides for "green box" subsidies, which do not distort trade activities, such biosecurity, research, and development.

Assessment - 3

Geographic Features

- NZ's natural environment, with lush pastures, fertile valleys, mild temperate climates, and ample rainfall, provides an ideal setting for a wide range of agricultural activities (livestock and crops) throughout the year.
- The country's isolation and no-nonsense, science-based, biosecurity apparatus also serves as a protective barrier against destructive invasive species (pests and diseases) that affect many other countries.

Assessment - 4

Technology, Innovation, and Research

- A strong commitment to technology, innovation, and research has been instrumental in NZ's agricultural success. The industry continuously invests in cutting-edge technologies, best practices, and research to improve productivity and sustainability.
- Precision agriculture and data-driven decision-making, as exemplified by the Dairy Data Network, have significantly boasted yields, profitability, and global competitiveness.
- Precision agriculture techniques, such as variable rate fertilization and automated irrigation, help optimize resource use and minimize environmental impact.

Assessment - 5

Diversification

- New Zealand’s ability to adapt and diversify its agricultural base has been a strategic move in its story of success.
- While traditional sectors like dairy and sheep farming remain important, diversifying into crops like kiwifruit, wine grapes, and other horticulture products reduces the risk associated with relying on a single commodity.
- This diversification taps into the growing global demand for healthy and sustainable food products.

Assessment - 6

Global Trade and Market Access

- NZ’s emphasis on free trade policies and active participation in international trade agreements has facilitated the export of agricultural products to a wide range of global markets.
- The removal of trade barriers through international and bilateral agreements with key trading partners has given NZ farmers preferential trade access to lucrative markets.

Assessment - 7

Conclusion

- New Zealand’s agricultural success is the result of a holistic approach that combines market-oriented policy reforms, favorable geographical conditions, a commitment to technology, innovation, research, diversification, and strategic global trade practices.
- These factors have collectively propelled NZ's agricultural sector to be competitive, resilient, and sustainable, serving as a valuable model for other countries seeking to enhance their agricultural economies.
- It remains to be seen whether federalism in the United States can effectively facilitate the extensive strategic policy and market reforms witnessed in the agricultural sector of New Zealand.

Appendices - 1

Appendix 1 – Agricultural Innovation Adopted

- Grass-based farming: The country's climate and abundant rainfall support efficient grass-based farming, with a focus on pasture-raised livestock like sheep and cattle, which is cost-effective and environmentally friendly compared to grain-based systems.
- Pasture management: New Zealand emphasizes pasture management, including rotational grazing, to maximize pasture use and reduce the need for supplementary feeding, resulting in higher productivity and lower costs.
- Genetic breeding programs: Investment in genetic breeding has led to breeds like the Romney sheep and Kiwi Cross cow, known for their adaptability and production efficiency in New Zealand's specific conditions.
- Agri-tech and precision agriculture: The country embraces technology, using tools like GPS, drones, and data analytics to boost productivity and sustainability. Precision agriculture techniques, including variable rate fertilization and automated irrigation, optimize resource usage while minimizing environmental impact.

Appendices - 2

Appendix 1 – Agricultural Innovation Adopted (2)

- Sustainable agriculture practices: New Zealand has a strong commitment to sustainable agriculture, with an emphasis on environmental conservation and responsible land management. This includes practices like riparian planting, which helps protect water quality, and the use of organic and integrated pest management techniques.
- Horticulture and wine production: New Zealand is a leading producer of high-quality fruits, vegetables, and wine. The country's innovative vineyard management techniques have earned it an international reputation for producing premium wines, particularly Sauvignon Blanc and Pinot Noir.
- Research and education: New Zealand's agricultural sector benefits from a strong focus on research and education. Universities and research institutions work closely with the agricultural industry to develop and promote cutting-edge practices and technologies.

Appendices - 3

Appendix 2 – Why New Zealand's Dairy Industry Thrives?

- Ideal Climate: The temperate climate and well-distributed rainfall provide ideal conditions for pasture-based dairy farming. The consistent supply of high-quality grass supports year-round grazing, reducing the need for costly supplementary feeding and cow housing.
- Abundant Water Resources: Ample freshwater resources enable efficient irrigation and ensure the well-being of dairy cattle.
- High Quality Pasture: Lush, nutrient-rich pastures, effective management practices, and rotational grazing lead to healthy and productive dairy cows.
- Export Opportunities: New Zealand's reputation for high-quality dairy products has led to significant exports, particularly to Asian and Middle Eastern markets.
- Regulatory and Quality Standards: Strict regulations ensure safety and product integrity, boosting consumer confidence in New Zealand's dairy products.
- Strong Industry Associations: Industry associations and cooperatives play a crucial role in coordinating and optimizing the production, processing, and marketing of diary products.

Appendices - 4

Appendix 3 – New Zealand’s Bio-Security Measures

New Zealand is known for its strict biosecurity measures to protect its unique and fragile ecosystem from invasive species and diseases. Tourists are expected to adhere to specific practices to minimize the risk of introducing harmful organisms into the country.

- Declare Biosecurity Risk Items: New Zealand enforces strict regulations on the importation of certain items that may carry invasive species or diseases, such as food, plants, and outdoor equipment. Travelers must declare these items upon arrival and adhere to customs and biosecurity officers' instructions.
- Comply with Quarantine Rules: New Zealand has quarantine rules in place to protect its environment. Travelers are expected to fully comply with these regulations, which may involve surrendering certain items at the airport, such as soiled hiking boots or camping gear. Failure to do so may result in fines or penalties.
- Proper Disposal of Biosecurity Risk Items: To dispose of biosecurity risk items like uneaten food, plants, and seeds, travelers should use designated disposal bins at airports and other entry points.
- Stay Informed: Prior to their trip, it's crucial for tourists to familiarize themselves with New Zealand's biosecurity regulations. Comprehensive information can be found on government websites and at the airport.

Mahalo!

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