Evolution of Fiji's Agriculture Economy: 'Life After Sugar'

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Overview

- **The Paper****
  - **Focus**
- **Why?**
  - **Background and Sugar**
  - **The Problem (complex – visible and invisible)**
- **Challenges and Constraints**
  - **General**
  - **Sugar (Predicted)**
- **Opportunities**
  - **Gift from the Past**
  - **Signs for the Future**
- **How?**
  - **The Model**

Why?

Background and Sugar

- Historical Significance (Basis of development - CSR to FSC, infrastructures like roads, bridges, townships etc)

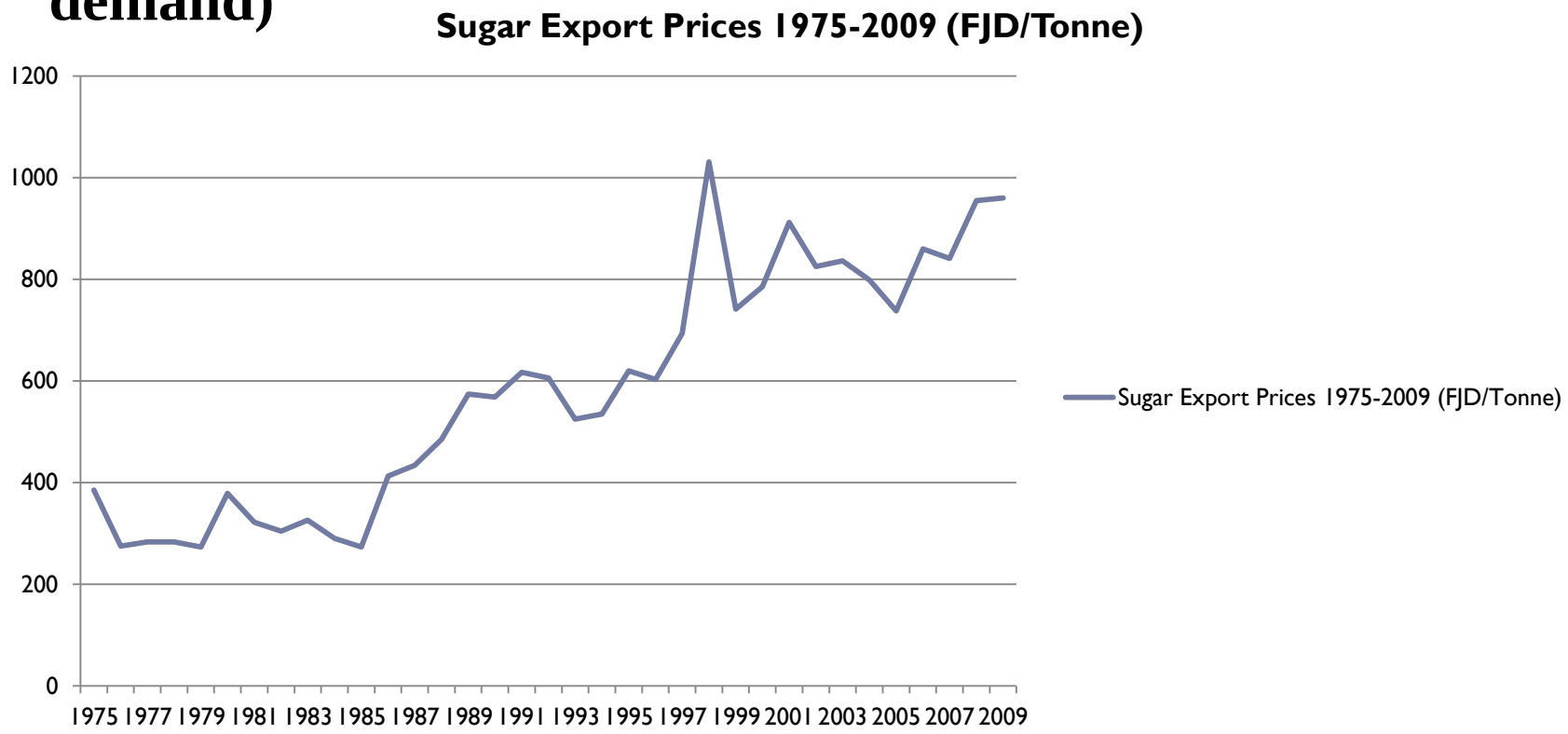
- **Economic Gains (Export Earnings - 70% of GDP early 1800s). Some correlation in sugar production and economic growth (ADB)**
- **Social (Employment e.g. 200,000 Govt. of Fiji 2008, ADB 1/3 of the population involved).**
- **Political Co-existence(Racial – Growers and Landowners)**

Why?

The Problem – From Icon to Irony

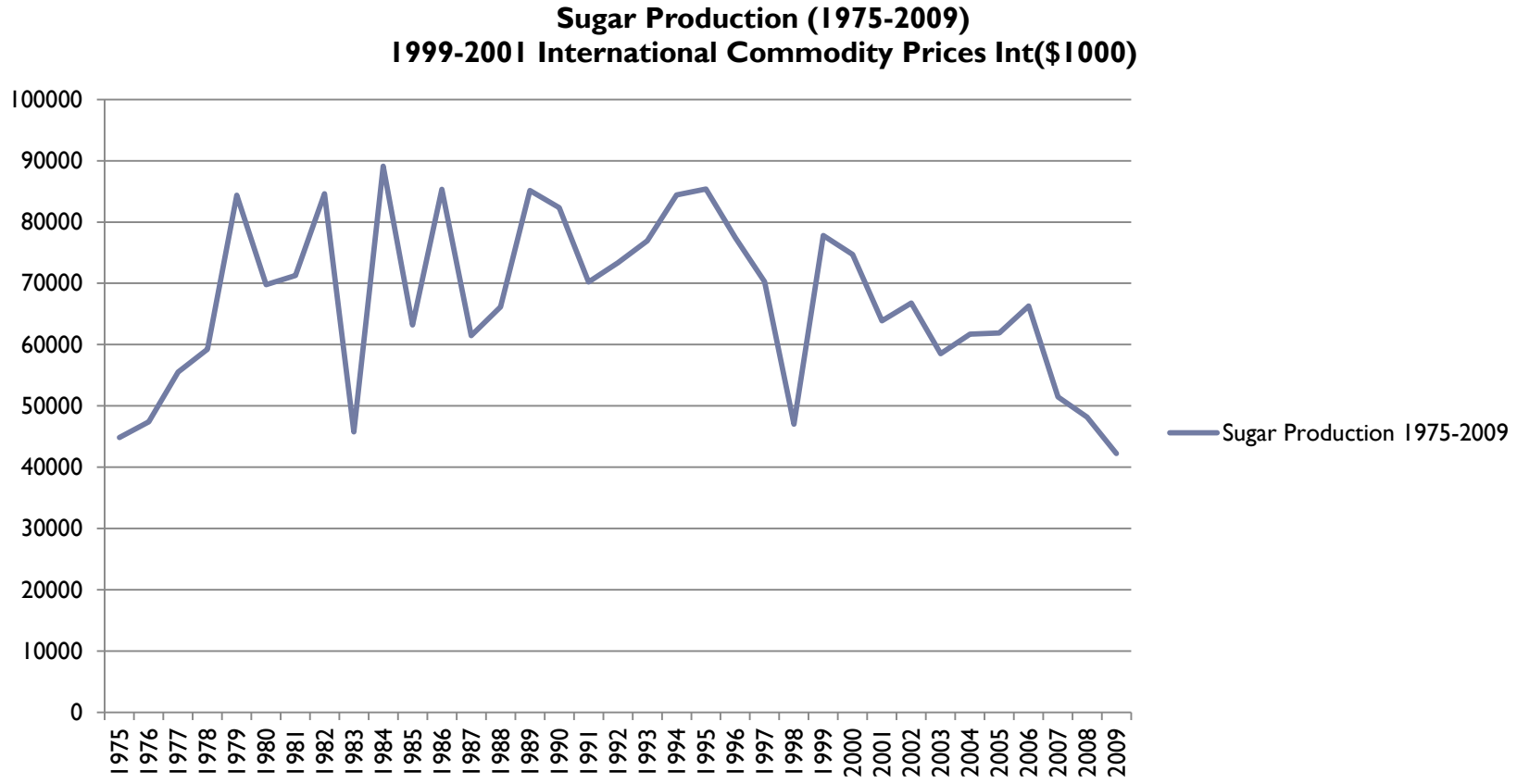
Why?

The Problem (OECD – FAO 2005-2014 Projections – increase – population growth affecting consumption and demand)



Why?

- **The Problem (Production decline)**



Why?

The Problem

- **Milling inefficiencies at FSC (breakdown, technical & parts*), EXIM Bank loan (FJ$84m) - failure**
- **Government Involvement (Early stages and now – ESCAP, 2005/ Fleming, 2007**

- Policies[Subsidies*, (Master award – proceeds* &burnt cane* 10 years on average (45%), shorter cutting seasons)]

- **Harvesting (FSC rails*** quota & trucks)***
- **Poor variety (R and D)**
- **FSC losses consecutive years, and SPSE (cash flow problems) – Inability to meet EU quota**

Why?

The Problem

- Land Tenure (Complex, Opportunities for efficiency – labour migration – declining interest)* efficient productivity**

- Farm Size (small holders farmers, uneconomical – last 10 years average about 20,000 total growers, 85% small holder

- Farm Production Efficiency (on 10 year average - 48 tonnes cane per hectare, compare other countries

Challenges and Constraints

Though;

-strategic location

-upper-middle-income (World Bank 2009), GDP per capita: US$3840 per annum

General

- geography and climate (infrastructural investment costs, distribution costs, etc)

- population size (economies of scale, monopoly and even carteling activities, etc)

- 4 coups (1987[twice], 2000 and 2006), political will

- Trade deficits (import bills)* & Devaluation (why and who for?)*****

Challenges and Constraints

- **Sugar**

  - reliance on sugar export (exposure to external forces), WTO (trade liberalisation)

  - price taker (volatility in sugar prices, increase – Brazil, 2008 & 2009)

  - Preferential pricing with EU - Taylor's 'aid with dignity' or development aid and the repercussions (predictable), Would end See; Taylor (1987), Moynagh (1981)

Opportunities

Gift from the Past

******Changing policy direction**

(import-substitution to export orientated – Was Fiji ready?)

*****Largely agro-based to a combination of manufacturing (garments), timber, fishing, service industry (tourism), etc.**

Opportunities

Signs for the Future (Explore)

- **Bio-fuel** (Ethanol from sugarcane and Cogeneration** current 5-7% power generation efficiency, Prasad, 2004),**

- Brazil and Mauritius success examples

-more sugar by- product (bagasse) See; Kroes, 2002, wastes, Brazil 250kg of bagasse /tonne of cane (Knight 2009). Based on Fiji's estimates – last 10 years average of 48 tonnes per hectare – bagasse 12,000kg per hectare

-standing cane (annual average around 40,000 tonnes),

- 2 IPPs supplying less than 2% of energy demand for Fiji.

-Increasing cost of importing oil (at least for domestic needs) FSC Annual Report 2010 and FEA 2010 AR.

Opportunities

Constraints

- **Costs***** UNDP **,** EU Sugar Industry Diversification Project, etc)
- **Infrastructures (Failure of Mill repairs – FSC 2010)**
- **Food security issues (cassava, copra – other food source; only 45.6 % of 1.83 million hectares of land used – 1 million hectares of unused land**

See Foraete, 2000 and Vosarogo, 2007 (DOE)

How?

Carbon Trading Projects

Kyoto Protocols – Clean Development Mechanism Projects

- Fiji (Climate Change Policy Framework – CDM Policy and Carbon Trading regulation) Department of Energy, Fiji

Constraints

- viability due to lack of mitigating factors (carbon emissions for Fiji – insignificant)
- Project Costs & Carbon Pricing (DOE)
- NGO Assistance (SPREP***, EU)
- Regulations (Macgregor, 2009)

How?

Using a Computable General Equilibrium Model

Basis for Fiji CGE model ****(Pioneered by Johansen 1974)**

Reference to earlier works by Levantis 1999 and Narayan (2003 and 2004) which are based on the ORANI model of the Australian economy (Dixon et al. 1982)

Current Model****

Used 35 domestic industries, 34 commodities (12 agricultural sector industries, 10 industrial sector industries and 12 service sector industries.

******Additional to include energy (see; Singh, 2009 energy demand + -), etc. incorporating carbon pricing and ethanol demand, to include latest data******

How?

Objective

To be able to describe how Fiji's economy would respond to changes in the economic environment particularly in the sugar industry and other industries

Specification (Neoclassical in Nature)

To capture the optimizing behaviour of consumers and producers in the economy by using a set of equations that includes all transactions that results from interactions between markets

Current Constraints?

Data

- new, update current ones - directly from source in Fiji

Limitations

- Author (technical aspects - further Training (Looking at Centre of Policy studies at Monash University)
- Funding (sponsors)

ENDS