

Macroeconomic Determinants of Price Dynamics in Ethiopia

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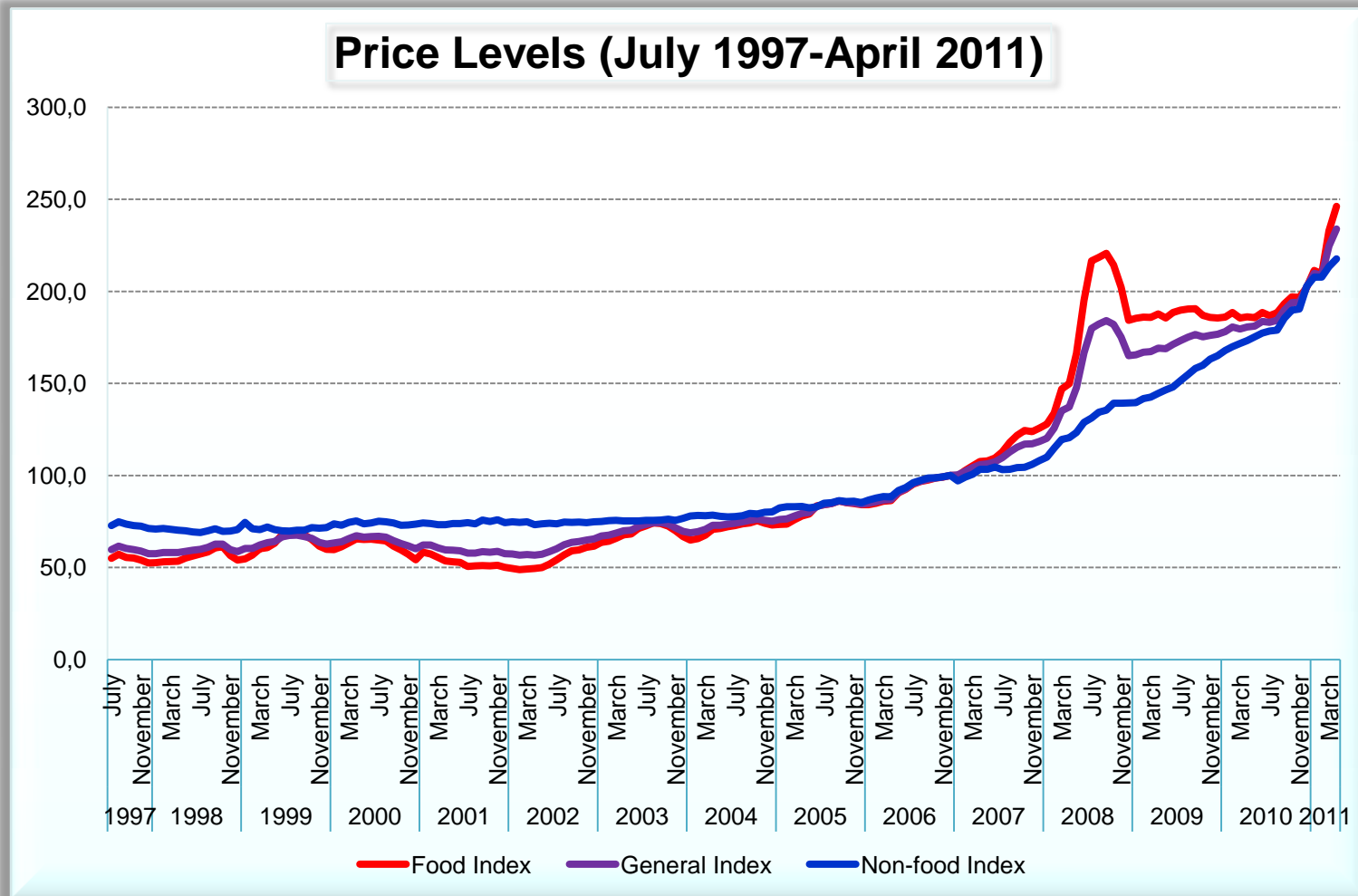
Outline

- **Introduction**
- **Price Trends and Major Incidences**
- **Conceptual Framework**
- **Modelling Strategy**

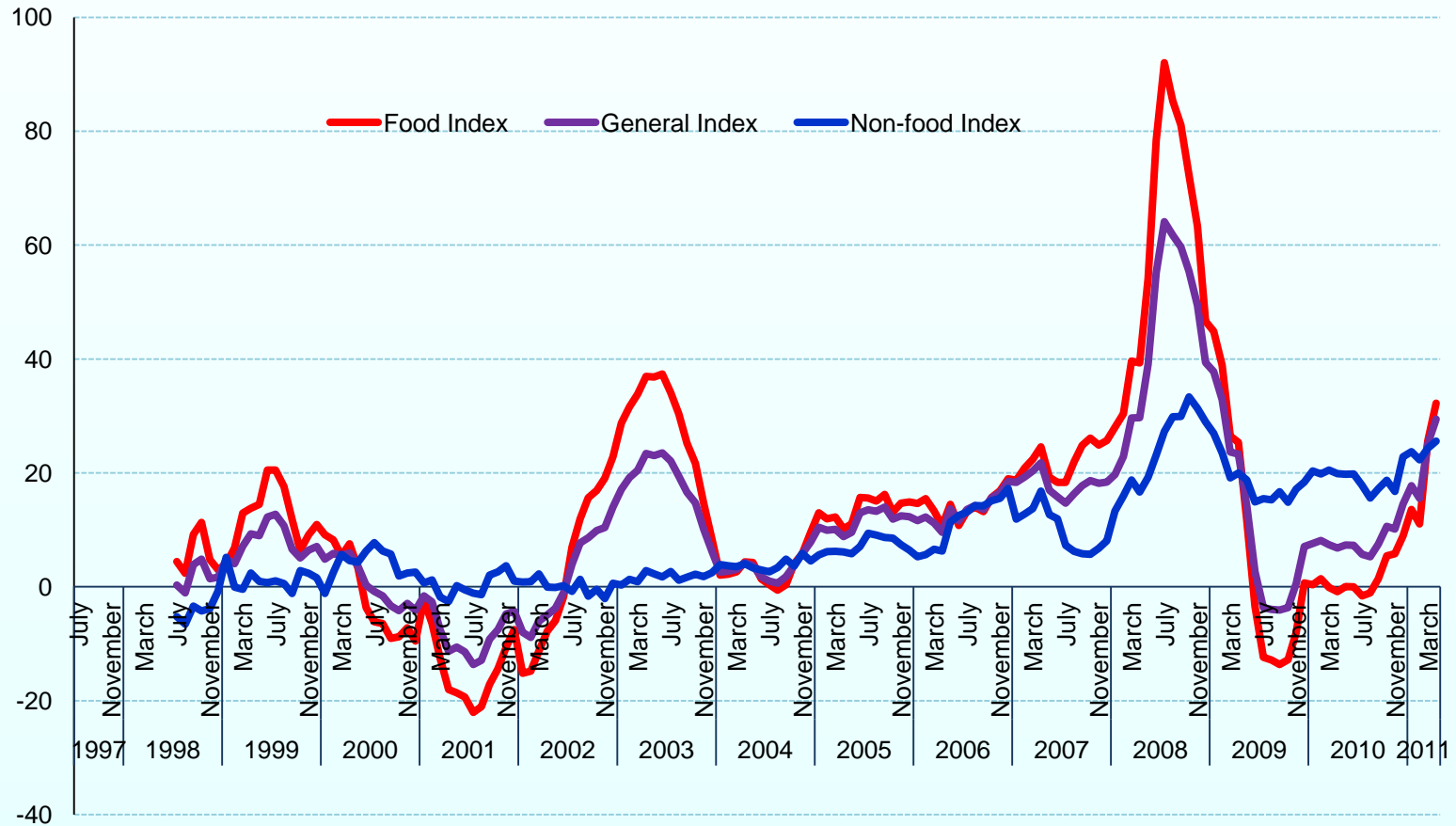
Motivation

- **Inflation was not an issue in Ethiopia until 2005.**
- **Inflation rates were mostly single digits except periods of drought and climax of war.**
- **Prices begun to soar in 2005.**

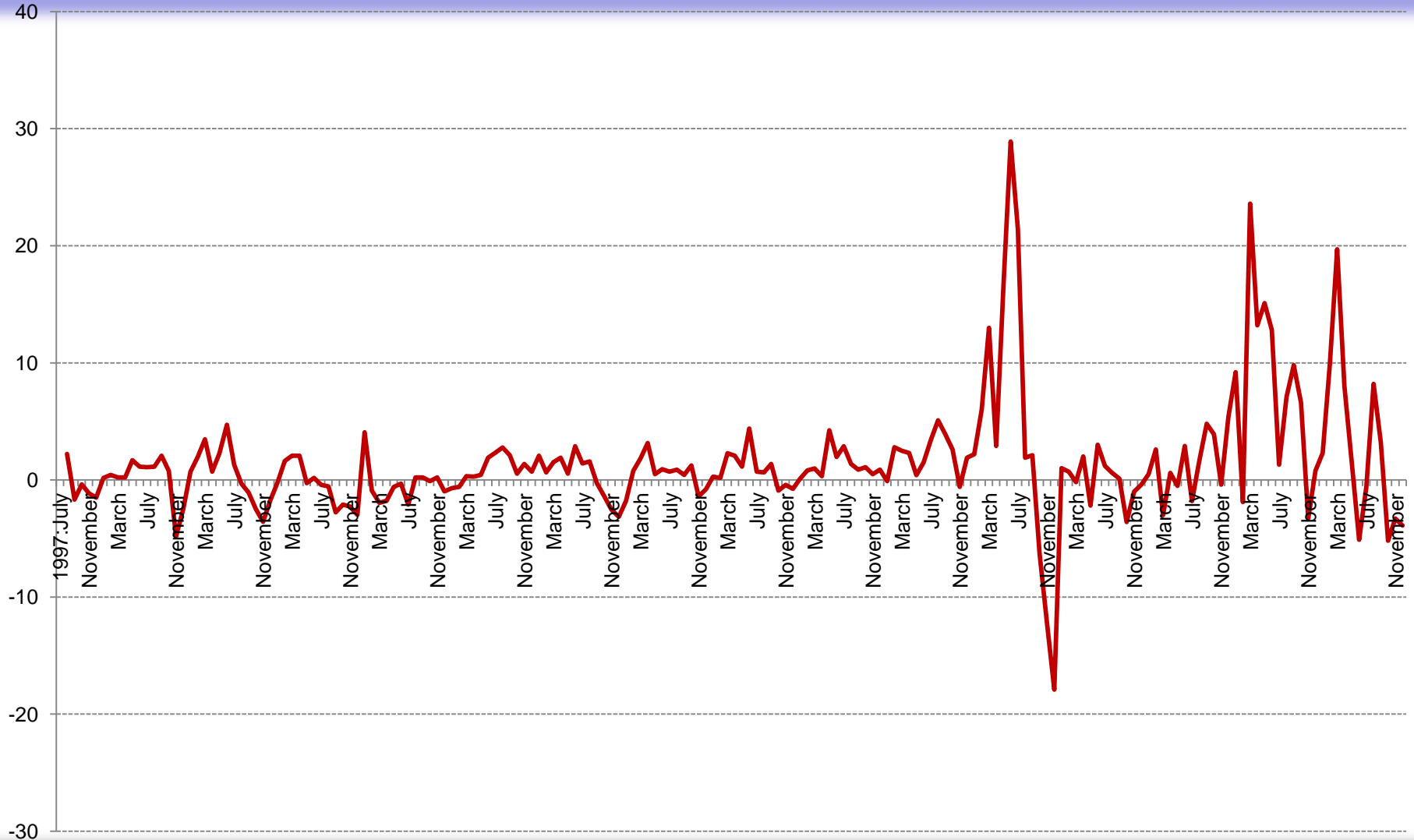
Motivation : Trends in Price Levels



Motivation : Inflation



Motivation : First Differences in Food Price



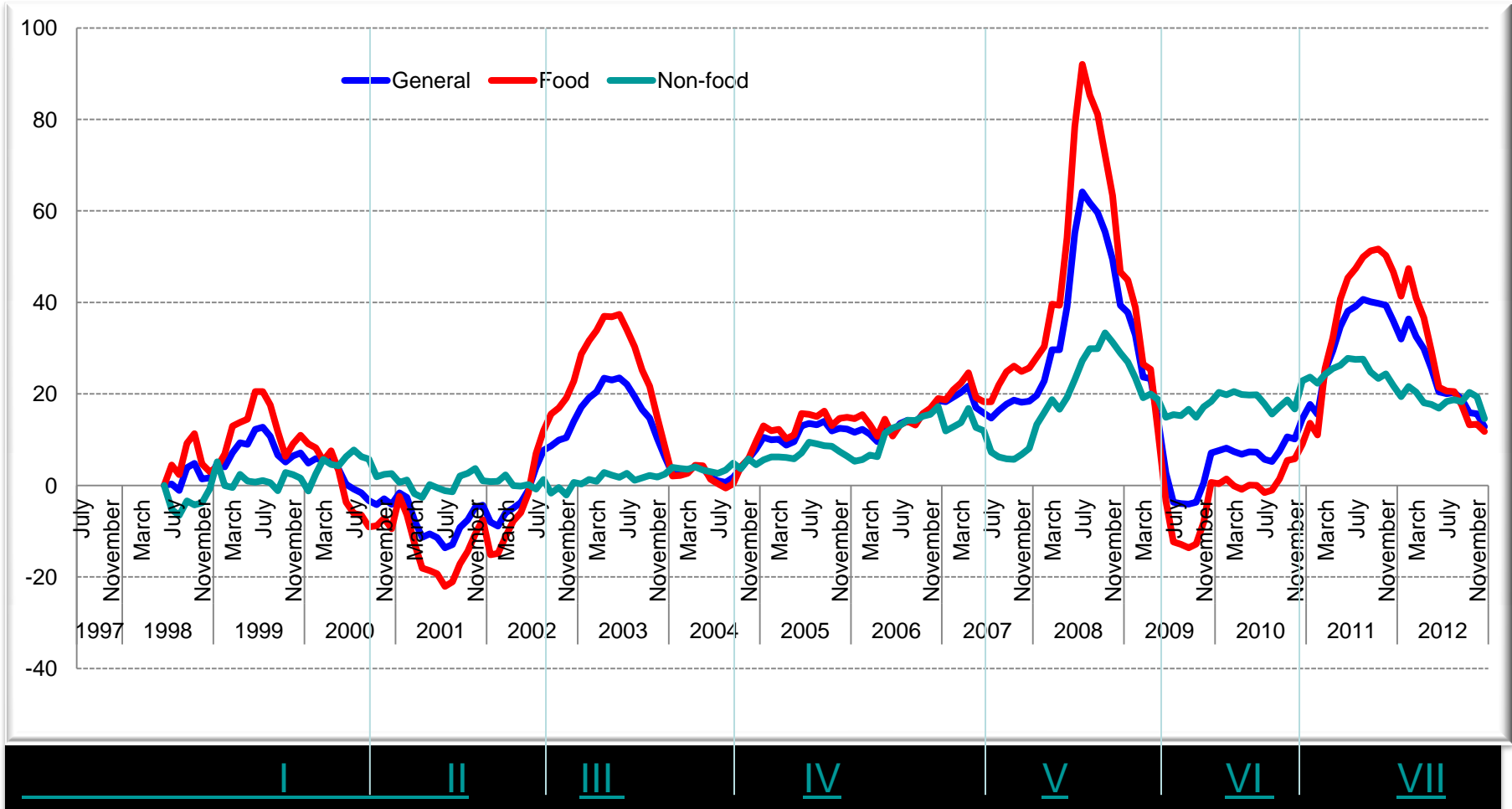
Motivation: **The Debate**

- **The National Bank of Ethiopia insists that inflation in Ethiopia is by and large an imported phenomenon.**
- **Researchers in the area and other stakeholders (including IMF) argue that it has more to do with expansionary monetary and fiscal policies.**

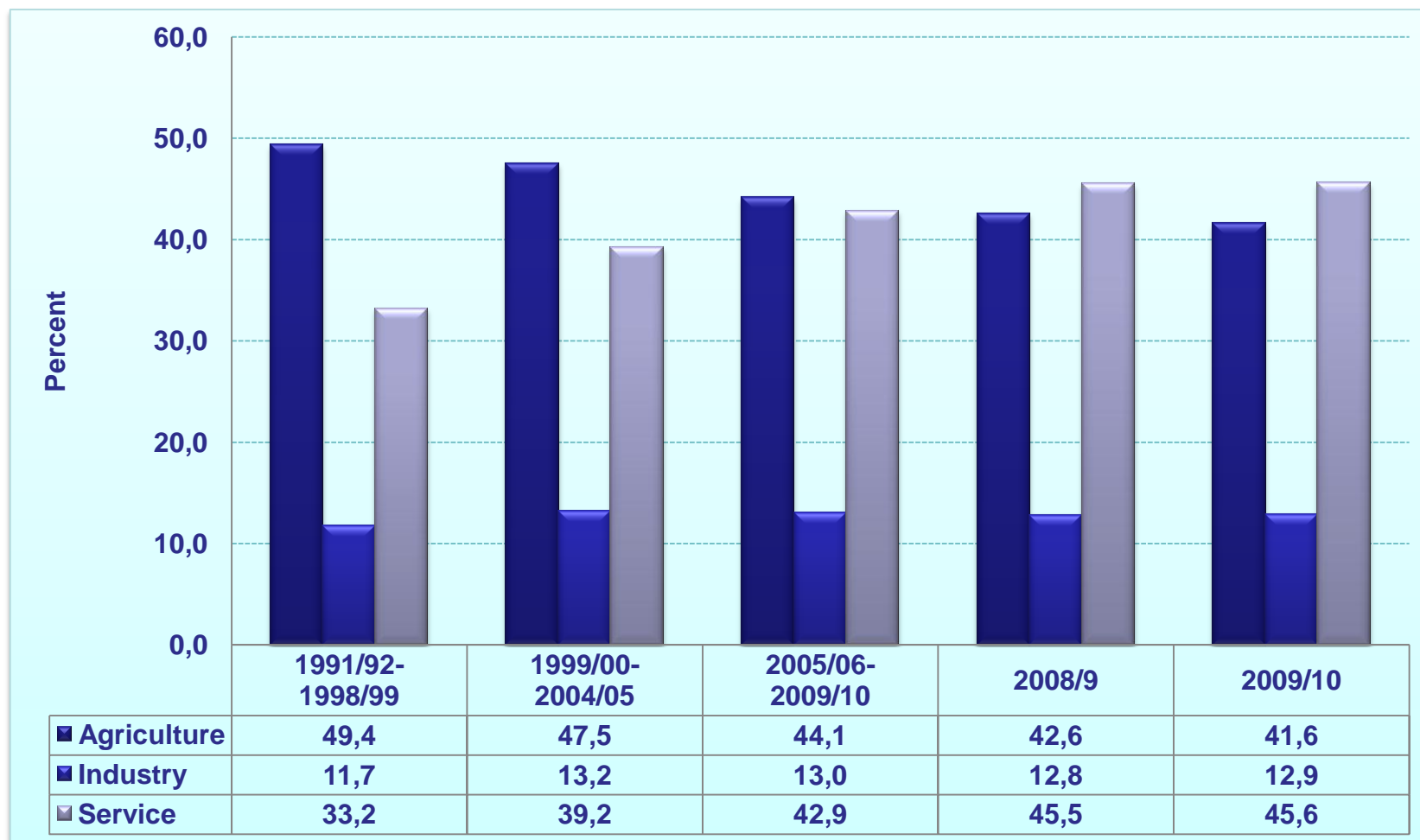
Purpose of the Study

- **This is part of a bigger project which focuses on the drivers and impacts of inflation in Ethiopia.**
- **It attempts to identify the macroeconomic causes of inflation in Ethiopia.**
- **Today's talk is on work in progress on the theme.**

Inflation and Time Line of Incidences



Service-Led Economy



A Service-Led Growth

	2000/01-2004/05 (SDPRP)		2005/06-2009/10 (PASDEP)	
	Weighted growth	Share in total growth	Weighted growth	Share in total growth
Agriculture	2.64	41.5	3.7	33.2
Crop	2.23	33.3	2.83	25.1
Industry	1.08	17.1	1.3	11.7
Manufacturing	0.26	3.9	0.48	4.2
Construction	0.69	10.3	0.63	5.6
Services	2.63	41.4	6.15	55.2
Wholesale and Retail Trade	0.71	10.6	1.85	16.4
Hotels and Restaurants	0.17	2.5	0.73	6.5
Transport and Communication	0.65	9.7	0.55	4.9
Financial Intermediation	0.14	2	0.49	4.4
Real Estate and Renting	0.83	12.4	1.44	12.7
Public Administration and defense	-0.11	-1.64	0.43	3.9
Education	0.29	4.3	0.45	4
Health	0.07	1.1	0.14	1.3
GDP	6.35	100	11.14	100

Inflation a Monetary Phenomenon?

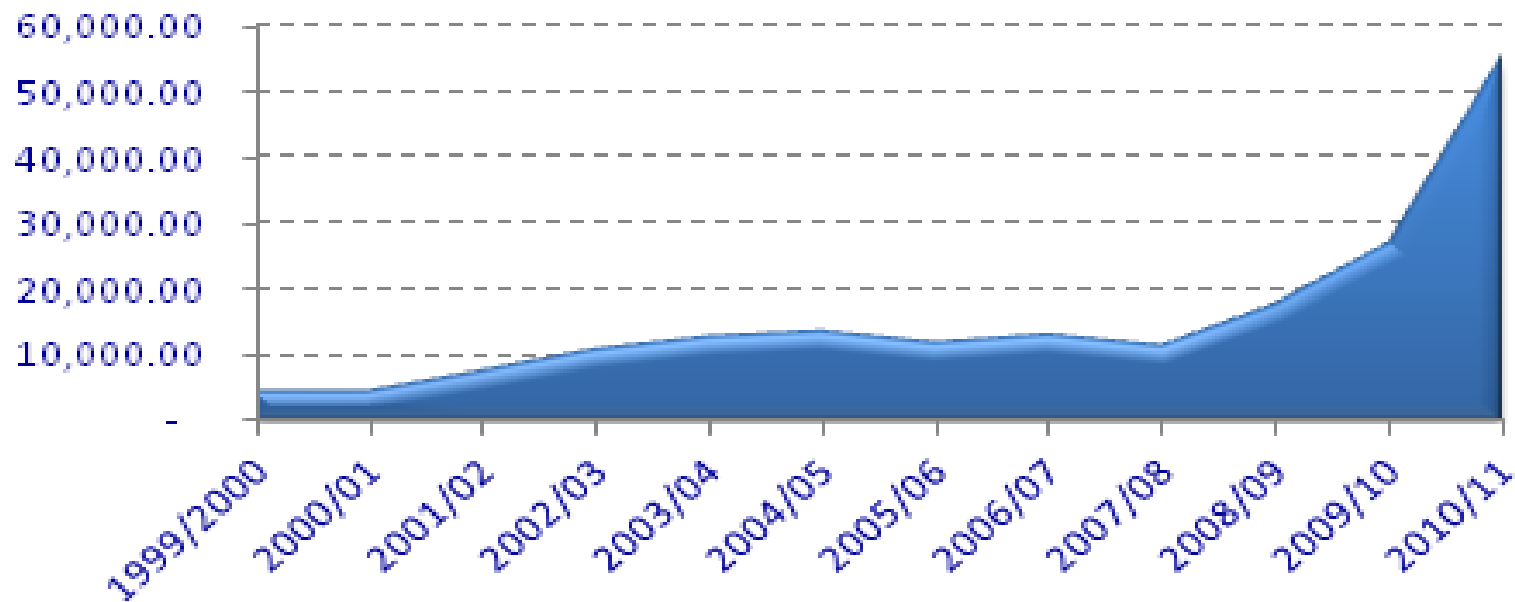
Growth Rates in Broad Money Supply and Its Components

	2000/01- 04/05	2005/06- 09/10	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Net Foreign Assets	25.834	18.056	-12.68	10.16	-12.55	54.1	51.25	104.25
Domestic Credit	9.398	21.13	22.28	25.46	29.31	11.55	17.05	29.82
Claims on Gov't	8.032	9.1	16.58	20.07	9.03	-0.87	0.69	-13.21
NBE	15.898	16.236	-2.27	30.16	42.45	6.84	4	15.21
CBE	36.508	35.472	189.17	-11.16	-142.5	116.33	25.52	163.5
Claims on other Sectors	12.094	31.15	28.92	31.12	48.84	20.31	26.56	49.72
Other items net	11.226	14.556	7.58	23.32	26.55	5.19	10.14	68.24
Broad Money	12.654	21.082	15.33	22.15	20.35	21.01	26.57	39.21
Narrow Money	10.318	19.844	11.84	24.38	19.36	19.13	24.51	45.27
Currency outside banks	11.316	19.434	13.93	20.01	28.78	11.67	22.78	34.57
Demand Deposits	9.576	20.446	9.98	28.42	11.23	26.57	26.03	54.44
Quasi-Money	15.746	22.454	19.26	19.8	21.45	23.04	28.72	33.09

Source: National Bank of Ethiopia and EEA Computations

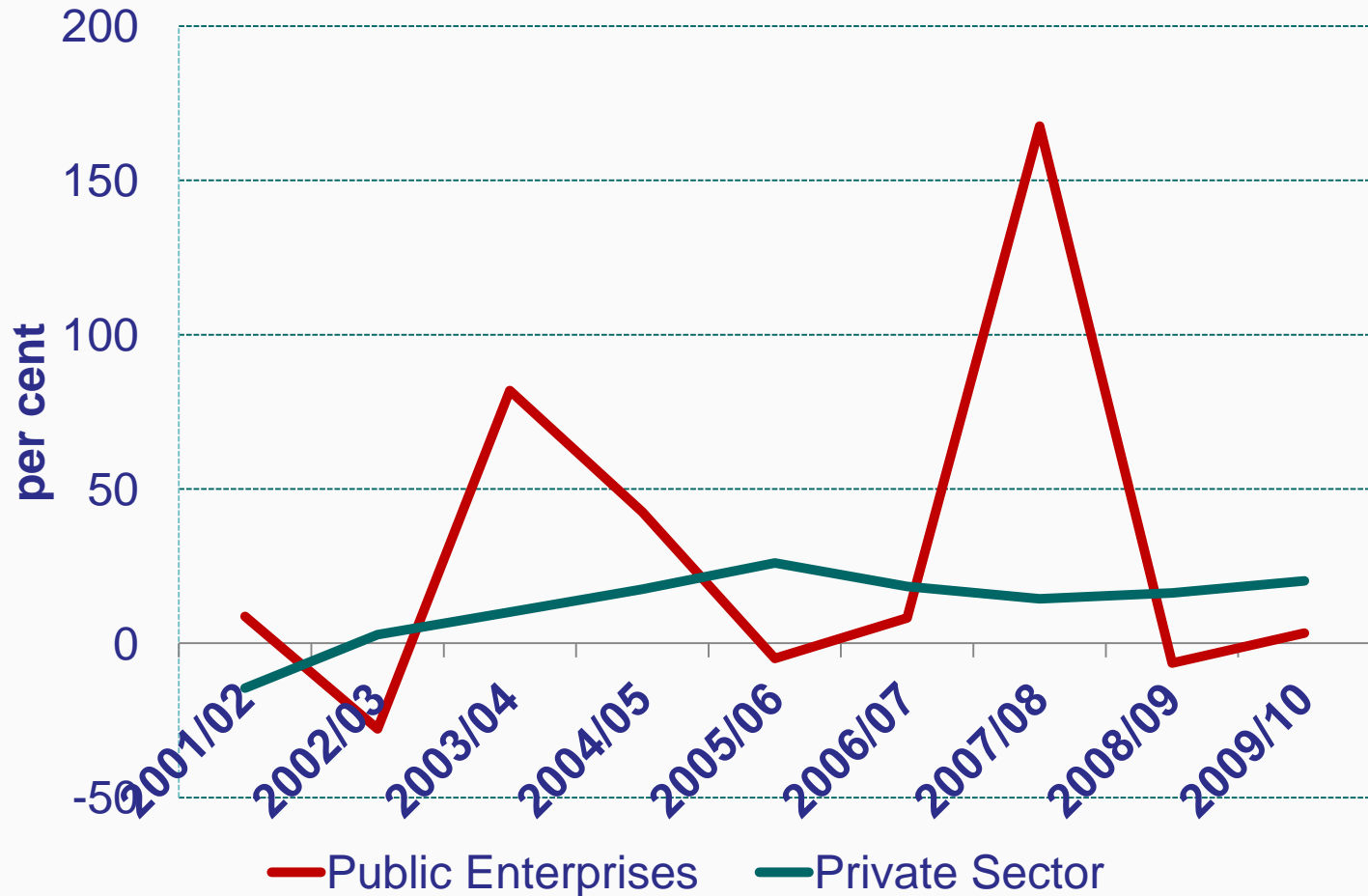
Inflation a Monetary Phenomenon?

Trends in Total Net Foreign Assets



Source: National Bank of Ethiopia

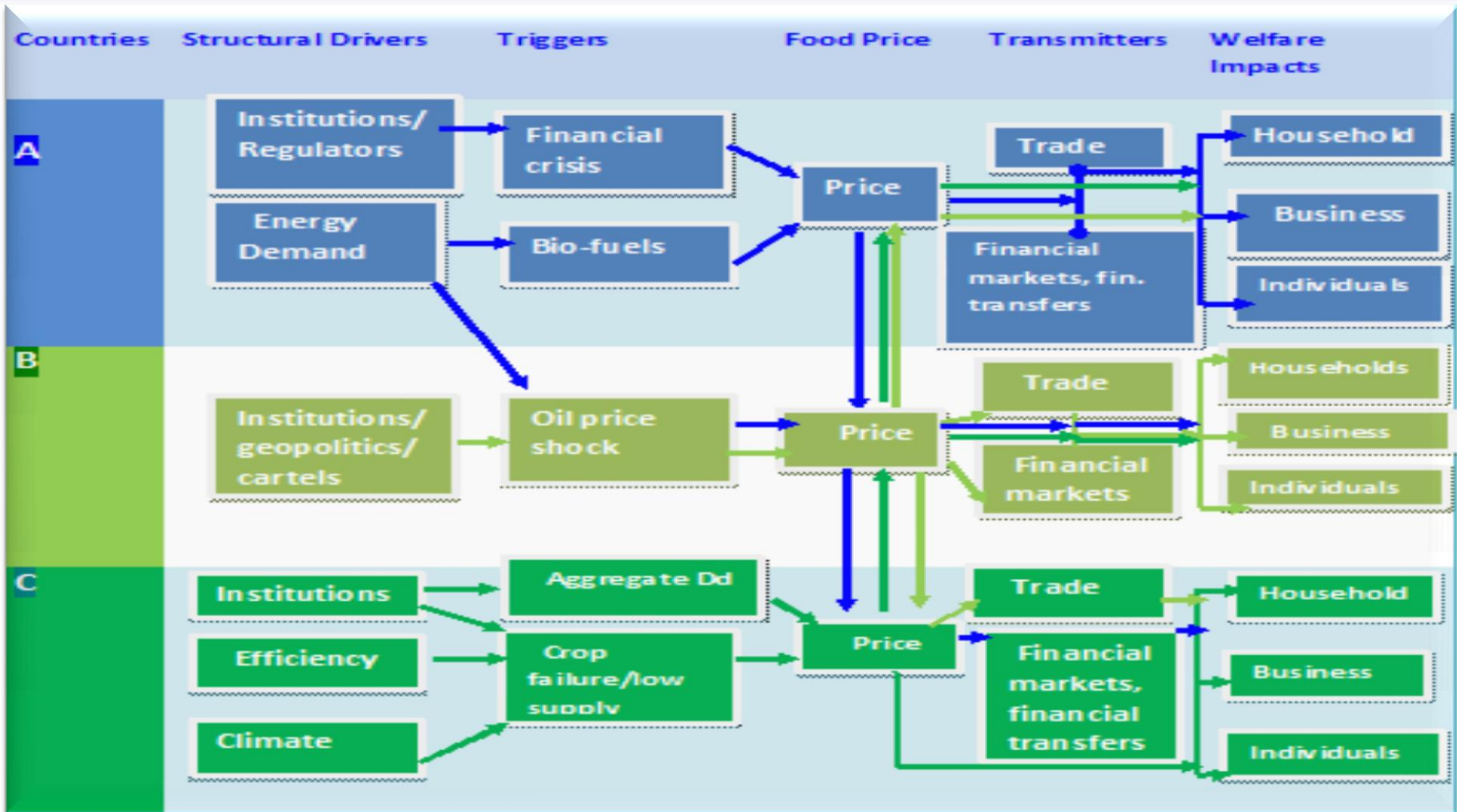
Credit Expansion to Public Enterprises



Prices of Major Import Items

- **In 2008, import items whose prices increased significantly had a share of 33 percent in the total import bills.**
- **In that year, unit price of imports for petroleum soared by 145 percent.**
- **In the same year, the unit price of fertilizer increased by 254 percent.**
- **Prices of imports of food items including grain increased by 55 percent.**

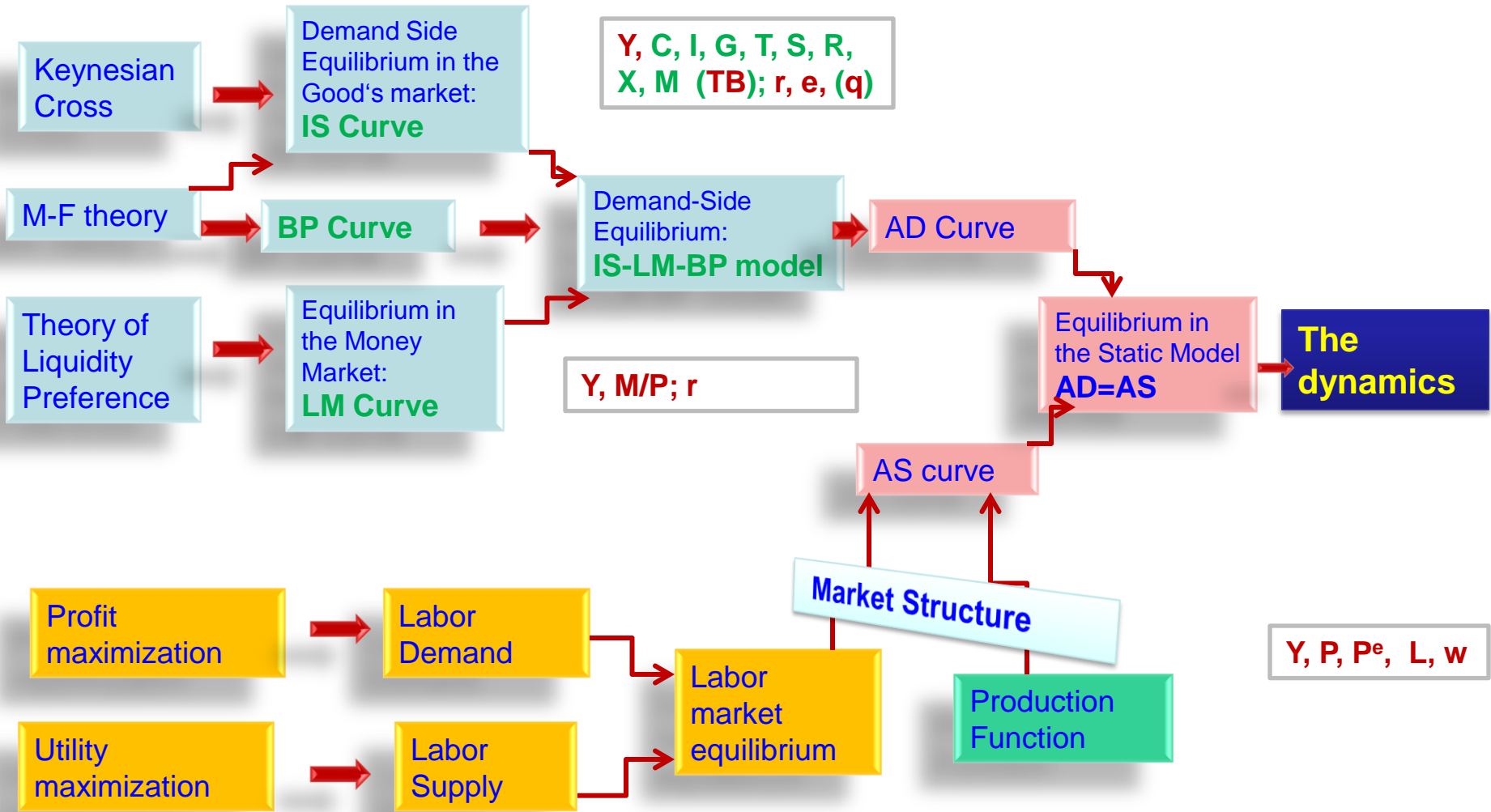
Global Price Transmission Mechanism: A Three Country World



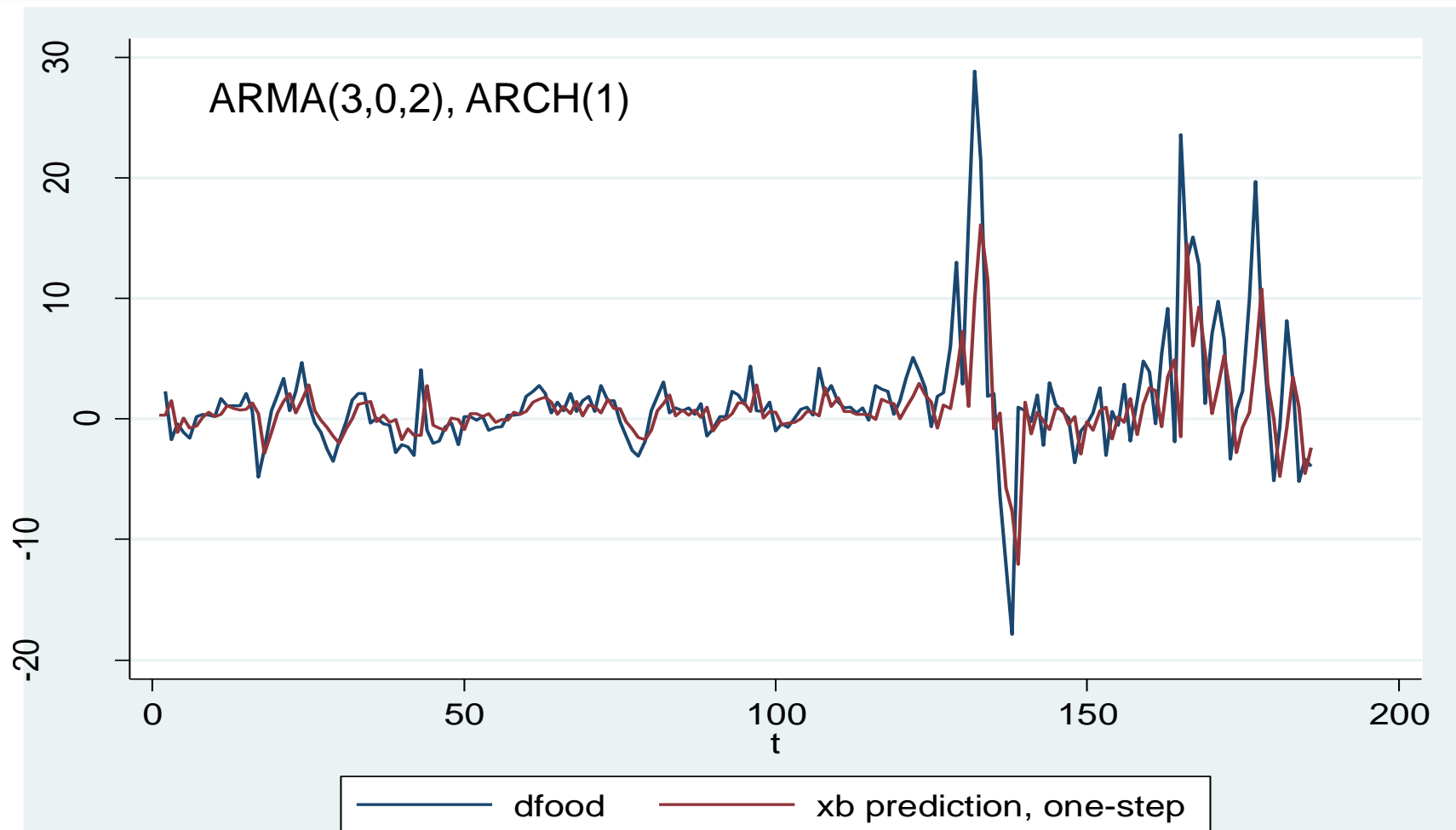
Sources of Inflation: **The Demand and the Supply**

- **Broadly speaking, inflation could be cost pushed or demand pulled.**
- **While supply- side shocks may cause temporary prices hikes, stubborn inflation is normally caused by demand side shocks.**
- **The global nature of price rises and the role of speculations and expectations in the price dynamcis are dominating the current debate.**

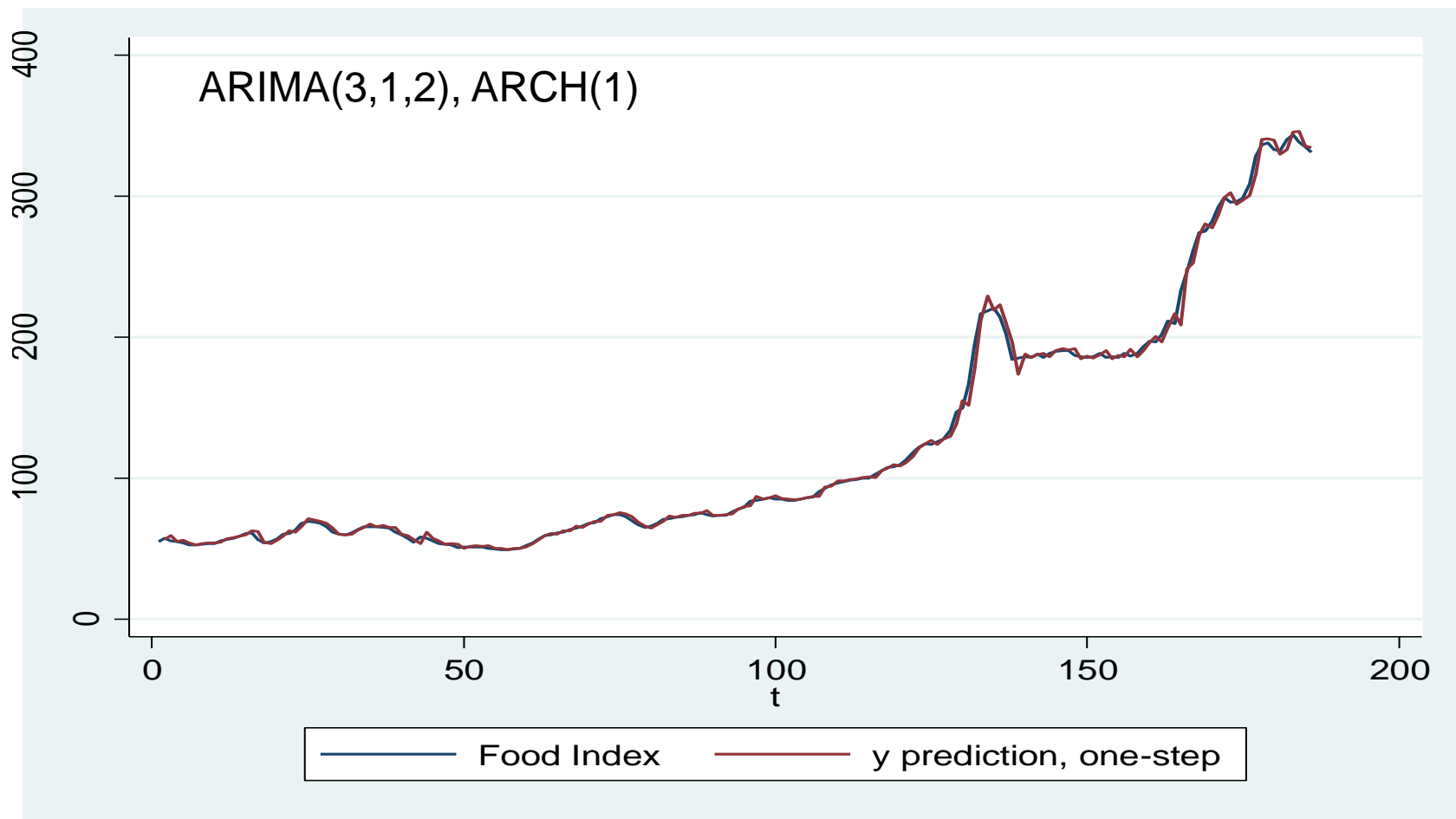
The Static Equilibrium



The Data Generating Process: **The Food Price**



The Data Generating Process: **The Food Price**



The Task Ahead

$$\Delta Z_t = \Gamma_i \Delta Z_{t-i} + \alpha \beta' Z_{t-k} + \varepsilon_t$$

$$\Delta p_t = \sum_{i=1}^k \gamma_i \Delta p_{t-i} + \sum_{i=0}^k \theta_i \Delta x_{t-i} \\ + \alpha (\beta_{11} \tilde{Z}_{1t-1} + \beta_{12} \tilde{Z}_{2t-1} + \beta_{13} \tilde{Z}_{3t-1}) + \delta D + \epsilon_t$$

- **Cointegration analysis**
- **Impulse –response**
- **Variance decomposition**
- **The data issue**

Thank You!!

Episode I

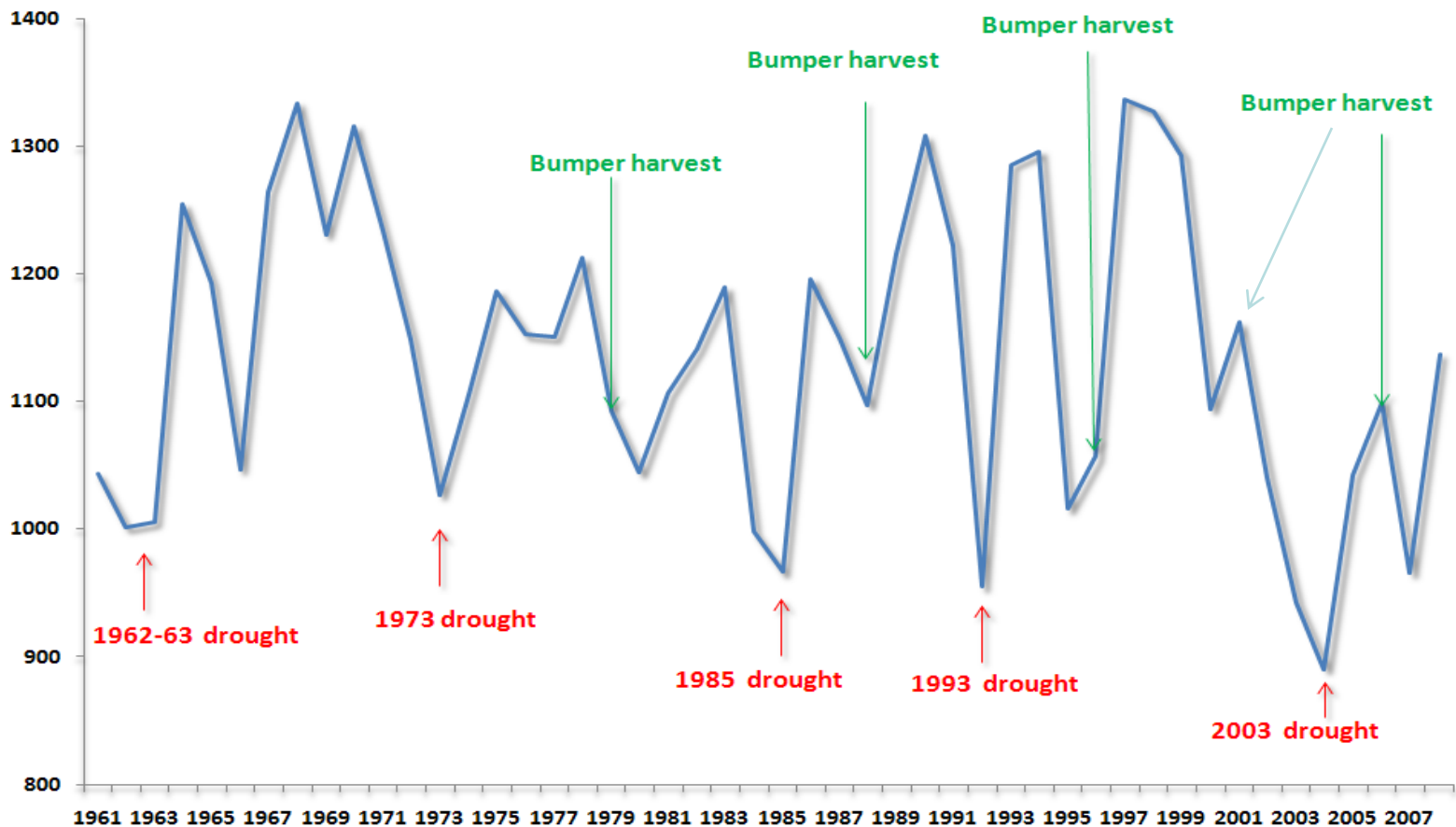
1. **Ethio-Eritrean war broke out.**
2. **Drought occurred in the Northern part of the country.**

Episode II

1. **Bumper harvest in 2000/2001.**
2. **Slow business in the urban areas following the Ethio-Eritrean war**

Episode III

Severe drought occurred and forced about 14 million people to look for food aid.



Episode IV

- 1. Government advised farmers not to sell their products to traders until the price rises. Eventually, the government itself had started to purchase agricultural surplus at a pre-set higher prices.**
- 2. The government preferred cash over food aid under the safety-net program which eventually monetizes the rural sector.**
- 3. Election was held and the aftermath of the election caused uncertainty to set in.**
- 4. Major donors reduced direct budget support to the government on the handling of post-election events; the government has got good reason to increase money supply and run deficit to finance projects.**
- 5. In 2007, The cumulative effect starts to kick in.**

Episode **V**

- 1. Narrow money expanded significantly.**
- 2. Credit advances to the public enterprises increased significantly**
- 3. Energy price escalated**
- 4. The global financial crisis erupted**
- 5. Drought hit the Southern part of the country.**

Episode VI

Central Bank announced tight monetary policy

Episode VII

- 1. Devaluation of the Birr (20 percent), favourable international price for coffee, remittances increased, foreign reserve increased by 104.3 percent, but the central bank preferred not to sterilize...**
- 2. Government increased salary of the civil servants**
- 3. Price cap**
- 4. Rise in oil price**
- 5. A new role of government: GTP launched**

Room for Speculation

Rate of Price Volatility for Maize (30.06.03-29.10.10)

