



## Structural Changes, Employment and Productivity in Nepal



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*Prepared for BNM Economics Research Workshop , held on 1 December 2014, Kuala Lumpur, Malaysia*



# Nepal Rastra Bank Outline

- Background
- Methodology and Data
- Growth Performance of Nepalese Economy
- Employment Performance of Nepalese Economy
- Structural Changes, Labour Productivity and Employment
- Decomposition of Per Capita GDP growth
- Conclusions and Policy Recommendations



## Background

- Policy of economic liberalization started in the mid-1980s, which was accelerated in the beginning of 1990s.
- Dismantled many restrictions imposed earlier for the private sector to enter into economic activities.
- Some economic sectors such as finance, communication, transport, health and education have expanded substantially.
- Internal Conflict 1996-2006, Peace process in 2006, policy of liberalization continued.



## Background contd.

- Impact of economic liberalization process on productivity and employment is vital for the sustainable growth of economy and raising living standard of common people.
- Moving away from agriculture and other traditional products and move into modern economic activities can achieve economic progress (McMillan and Rodrik, 2012).
- Sectoral productivity and employment pattern of growth may have important implications for poverty alleviation as well (Gutierrez, et. al, 2007)



## Methodology and Data

- Growth decomposition methods recommended by the World Bank (ND) and partly used by McMillan and Rodrik (2012).
- Job Generation and Growth Decomposition Tool - growth is linked to changes in employment, output per worker and population structure at the aggregate level and by sectors.

$$\frac{Y}{N} = \frac{Y}{E} \frac{E}{A} \frac{A}{N}$$

$$y = \omega * e * a$$



## Methodology and Data, contd.

- The decomposition can be extended to multiple sectors as

$$\frac{Y}{N} = \left( \sum_s \frac{Y_s}{E_s} \frac{E_s}{A} \right) \frac{A}{N}$$

$$\frac{\Delta y}{y} = \bar{\omega} + \bar{e} + \bar{a}$$

- where  $\bar{\omega}$ ,  $\bar{e}$  and  $\bar{a}$  are the marginal contribution of each component to the observed change in per capita value added



## Methodology and Data, contd.

- Decomposition for the period of 1991-2001 and 2001-2011.
- Obtaining data from various issues of Economic Survey of Government of Nepal and Census Report of 1991, 2001 and 2011 published by Central Bureau of Statistics



# Nepal Rastra Bank

## Growth Performance of the Nepalese Economy

	1991-2000	2001-2010	2011	2012	2013
Agriculture, Fisheries & Forestry	2.2	2.3	4.5	5.0	1.3
Mining & Quarrying	5.1	2.9	2.0	5.0	5.5
Manufacturing	8.6	0.4	4.1	3.6	1.8
Electricity Gas & Water	7.1	4.3	4.4	8.4	0.2
Construction	5.6	2.7	4.8	0.2	1.6
Trade, Restaurant & Hotel	5.6	0.7	2.0	3.4	9.2
Transport, Communication & Storage	7.3	4.6	5.2	5.7	6.7
Finance & Real Estate	5.2	3.7	2.6	3.1	3.4
Community, Social and other Services	5.5	5.9	4.5	6.0	4.6
Non Agriculture GDP	6.2	3.0	3.6	4.2	5.0
Total GDP	4.4	2.7	3.9	4.4	3.7





## Growth Performance of the Nepalese Economy, contd.

### Sectoral Contribution to Growth

	1991- 2000	2001- 2010	2011	2012	2013
Agriculture, Fisheries & Forestry	20.1	30.2	40.1	39.5	11.8
Mining & Quarrying	0.6	0.5	0.2	0.5	0.7
Manufacturing	17.0	1.1	7.0	5.5	3.4
Electricity Gas & Water	2.4	3.2	2.5	4.3	0.1
Construction	14.3	6.0	7.3	0.3	2.4
Trade, Restaurant & Hotel	14.1	3.9	7.0	10.7	36.9
Transport, Communication & Storage	11.1	14.3	12.4	12.3	17.9
Finance & Real Estate	11.6	16.2	8.1	8.6	11.1
Community, Social and Other Services	11.0	25.6	15.7	18.9	17.8
Non Agriculture GDP	79.9	69.8	60.0	60.6	89.0
Total GDP	100	100	100	100	100



## Growth Performance of the Nepalese Economy, contd.

Share of different sectors in GDP

	1991	2001	2011	2013
Agriculture, Fisheries & Forestry	46.5	38.0	35.0	34.4
Mining & Quarrying	0.5	0.6	0.4	0.4
Manufacturing	7.0	9.9	6.8	6.7
Electricity Gas & Water	1.4	1.7	2.2	2.2
Construction	10.5	11.4	6.1	5.7
Trade, Restaurant & Hotel	10.7	11.2	14.1	14.7
Transport, Communication & Storage	5.7	7.4	9.4	9.8
Finance & Real Estate	9.5	9.8	12.2	12.1
Community & Social Services	8.3	10.0	13.7	14.1
Non Agriculture GDP	53.5	62.0	65.0	65.6
Total GDP	100.0	100.0	100.0	100.0



## Overall and Sectoral Employment Generation

	Employment share			Employment Growth (Annual average)	
	1991	2001	2011	1991-01	2001-11
Agriculture, Fisheries and Forestry	81.2	65.7	<b>66.7</b>	0.8	0.7
Mining and Quarrying	0.0	0.2	0.3	17.4	5.1
Manufacturing	2.0	8.8	<b>5.5</b>	16.0	-3.7
Electricity, gas and water	0.2	1.5	<b>0.2</b>	23.1	-16.0
Construction	0.5	2.9	3.2	18.9	1.6
Trade, Restaurant and Hotel	3.5	9.9	8.1	12.2	-1.3
Transport, Communication and Storage	0.7	1.6	2.4	10.5	4.3
Financial and Real Estate	0.3	0.8	<b>0.7</b>	11.8	0.2
Community, Social and Other Services	11.6	8.6	12.8	0.0	4.2
Total	100	100	100	<b>2.7</b>	<b>0.6</b>



## Overall and Sectoral Employment Generation contd.

### Employment Elasticity

	1991-2001	2001-2011
Agriculture, Fisheries and Forestry	0.32	0.25
Mining and Quarrying	3.70	1.50
Manufacturing	2.15	-4.85
Electricity, gas and water supply	3.93	-1.83
Construction	3.76	0.47
Trade, Restaurant and Hotel	2.58	-1.43
Transport, Communication and Storage	1.55	0.74
Financial and Real Estate	2.60	0.05
Community, Social and Other Services	0.00	0.63
Total	<b>0.64</b>	<b>0.18</b>



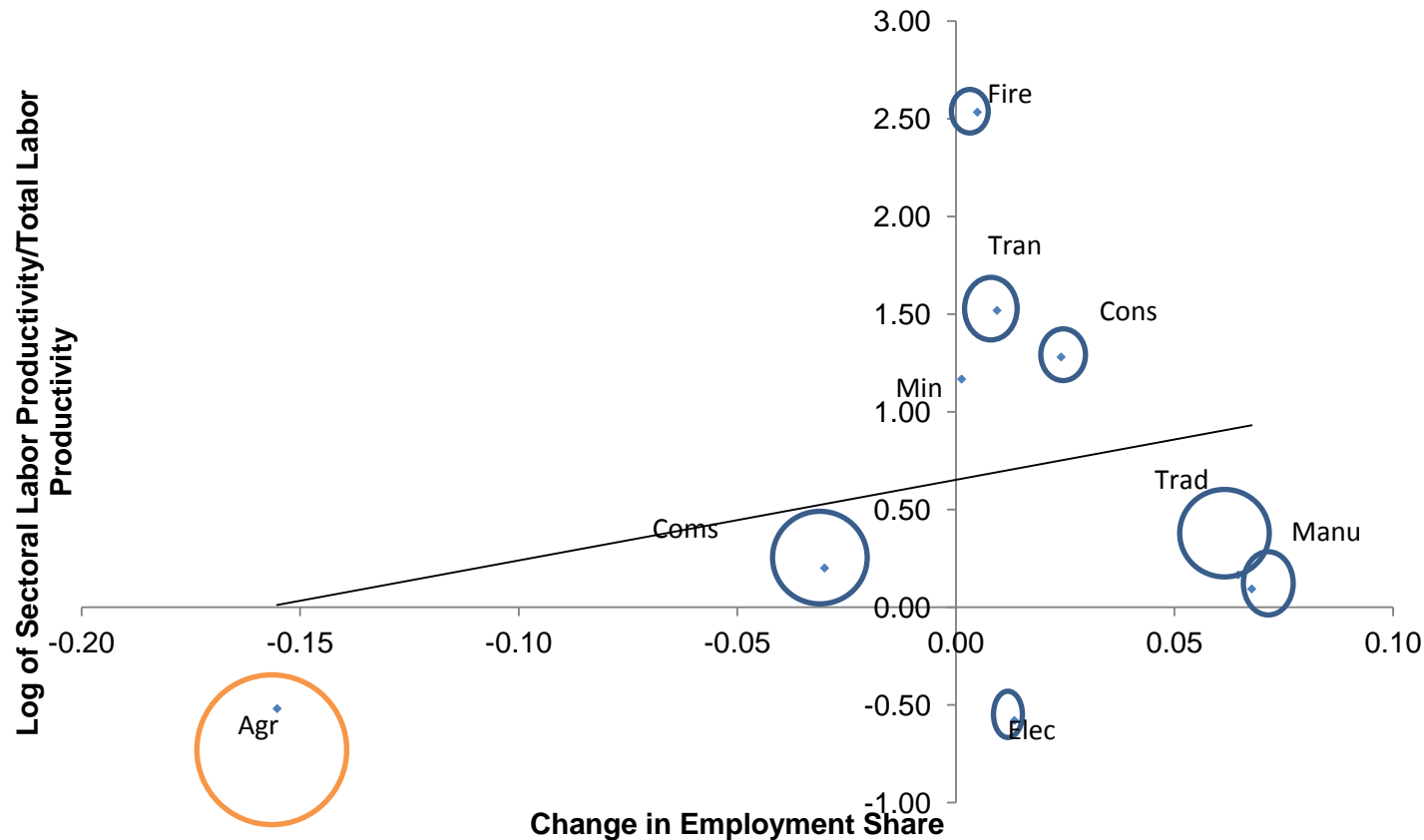
## Structural Change, Labour Productivity and Employment

- Sectorwise Labour Productivity (at 1991 Price, in'000)

	1991	2001	2011
Agriculture, Fisheries and Forestry	9.3	11.5	14.6
Mining and Quarrying	243.5	56.8	47.2
Manufacturing	52.6	22.2	36.3
Electricity, gas and water supply	69.5	10.9	166.7
Construction	310.7	43.5	53.0
Trade, Restaurant and Hotel	50.4	38.8	49.2
Transport, Communication and Storage	129.1	80.6	95.3
Financial and Real Estate	525.0	264.5	413.7
Community and Social Service and others	11.7	23.3	30.6
<b>Total</b>	<b>15.8</b>	<b>20.2</b>	<b>27.3</b>

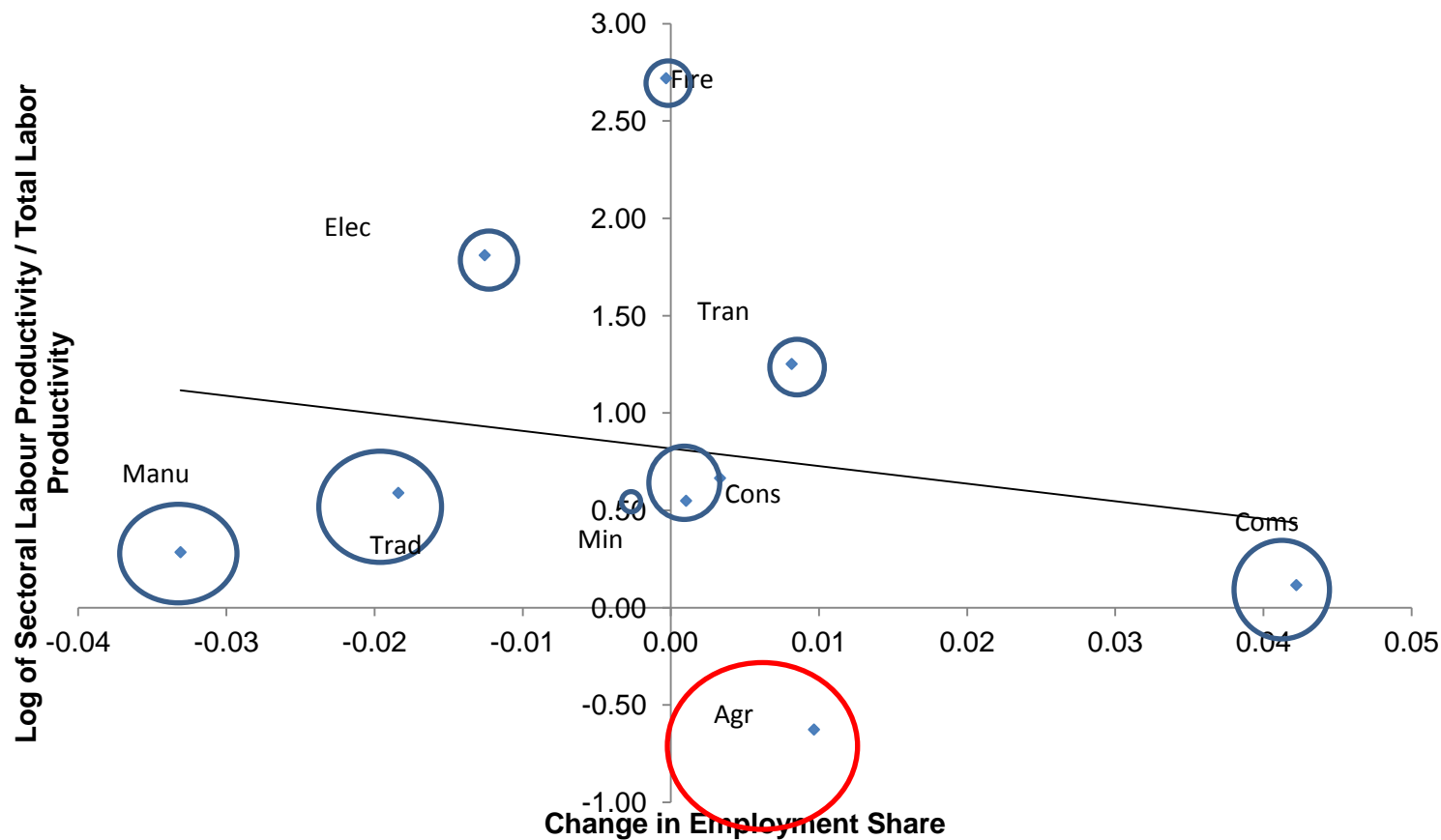


## Correl. bet<sup>n</sup> Sectoral Productivity and Change in Employment Shares in Nepal (1991-2001)





## Correl. bet<sup>n</sup> Sectoral Productivity and Change in Employment Shares in Nepal (2001-2011)





## Decomposition of Per Capita GDP growth

	1991	2001	2001(new)	2011 (new)	1991-01 (Annual %)	2001-11 (Annual %)
GDP Rs. million @1991 price	116127	185961.3	200780.8	291173.8	4.7	3.7
Total Pop. in '000	18491.1	22736.9	22736.9	26494.5	2.1	1.5
Total Pop. working wage in '000 *	10108.8	12831.9	12831.9	15854.3	2.4	2.1
Total number of employed in '000#	7339.6	9900.2	9900.2	10570.7	3.0	0.7
					<b>Change</b>	
GDP (value added) per capita	6280.2	8178.8	8830.6	10990	<b>1898.7</b> <b>(2.6% p.a.)</b>	<b>2159.4</b> <b>(2.2% p.a.)</b>
Output per worker (w)	15822.0	18783.6	20280.5	27545.3	2961.6 (1.7% p.a.)	7264.9 (3.1% p.a.)
Employment Rate (e)	0.73	0.77	0.77	0.67	0.05	-0.10
Share of population of working age (a)	0.55	0.56	0.56	0.60	0.02	0.03



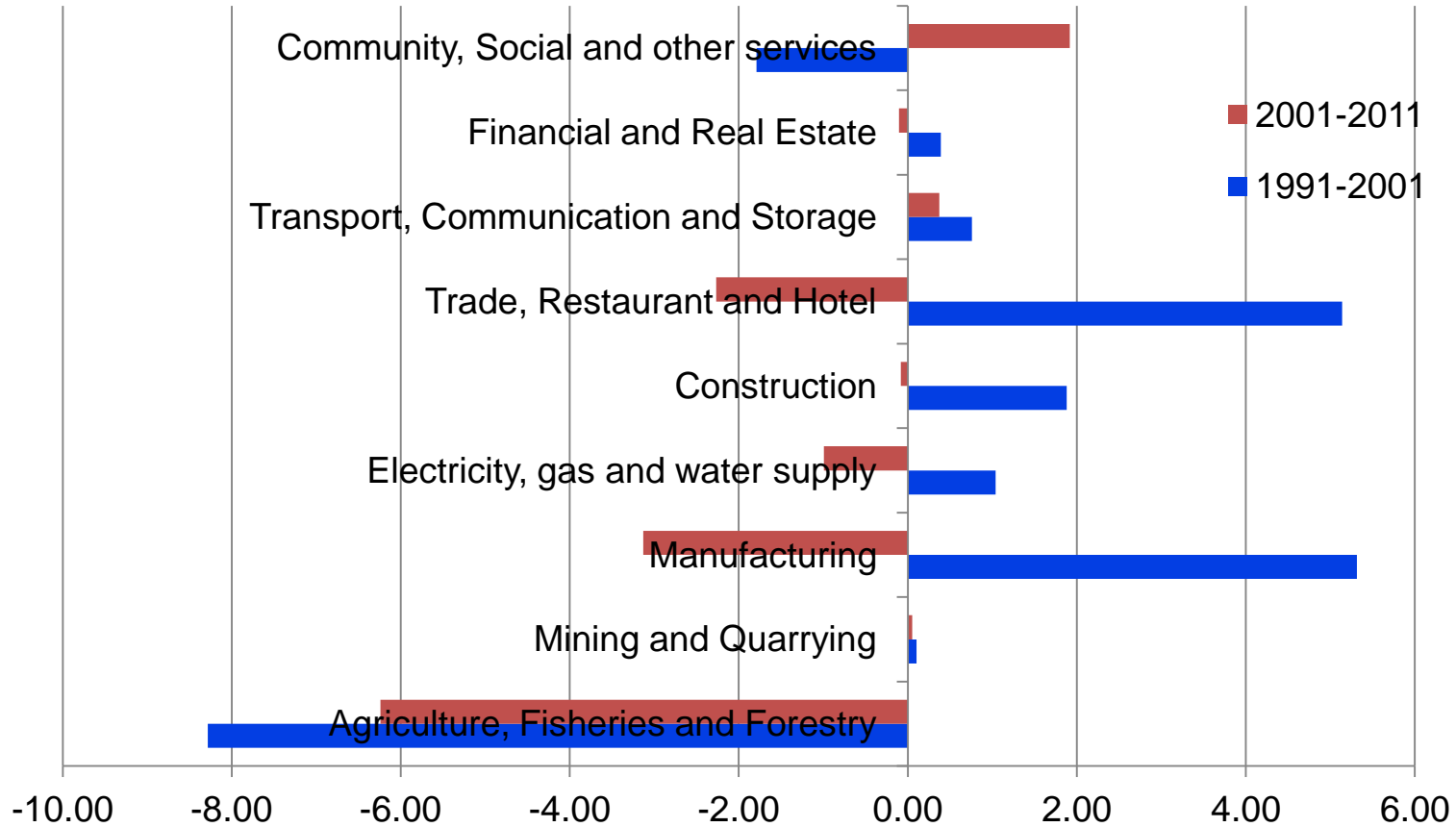


## Decomposition of Per Capita GDP growth

	1991-2001		2001-2011	
	Change in per Capita Value Added (@1991 price) in Rs.	% of total change in per capita value added growth	Change in per Capita Value Added (@1991 price)	% of total change in per capita value added growth
Total growth in per capita GDP	<b>1898.7</b>	100	2159.4	100
Growth linked to output per worker	1232.1	64.9	3035.2	140.6
Growth linked to changes in employment rate	437.3	23.0	-1459.0	-67.6
Growth linked to changes in the share of population of working age	229.3	12.1	583.2	27.0



## Contribution of each Sector to Changes in Employment Rate (1991-2011)





## Role of Sectoral employment to Per Capita GDP growth, contd.

	Contribution to changes in per capita GDP		Percent of total changes in per capita GDP	
	1991-01	2001-11	1991-01	2001-11
Agriculture, Fisheries and Forestry	-796.7	-868.9	-41.96	-40.24
Mining and Quarrying	9.8	7.2	0.52	0.33
Manufacturing	510.9	-435.8	26.91	-20.18
Electricity, gas and water supply	99.9	-138.5	5.26	-6.41
Construction	180.7	-11.4	9.52	-0.53
Trade, Restaurant and Hotel	494.4	-315.9	26.04	-14.63
Transport, Communication and Storage	72.8	51.9	3.83	2.4
Financial and Real Estate	37.6	-14.3	1.98	-0.66
Community, Social and other services	-172.2	266.7	-9.07	12.35
Total	437.3	-1459	23.03	-67.57



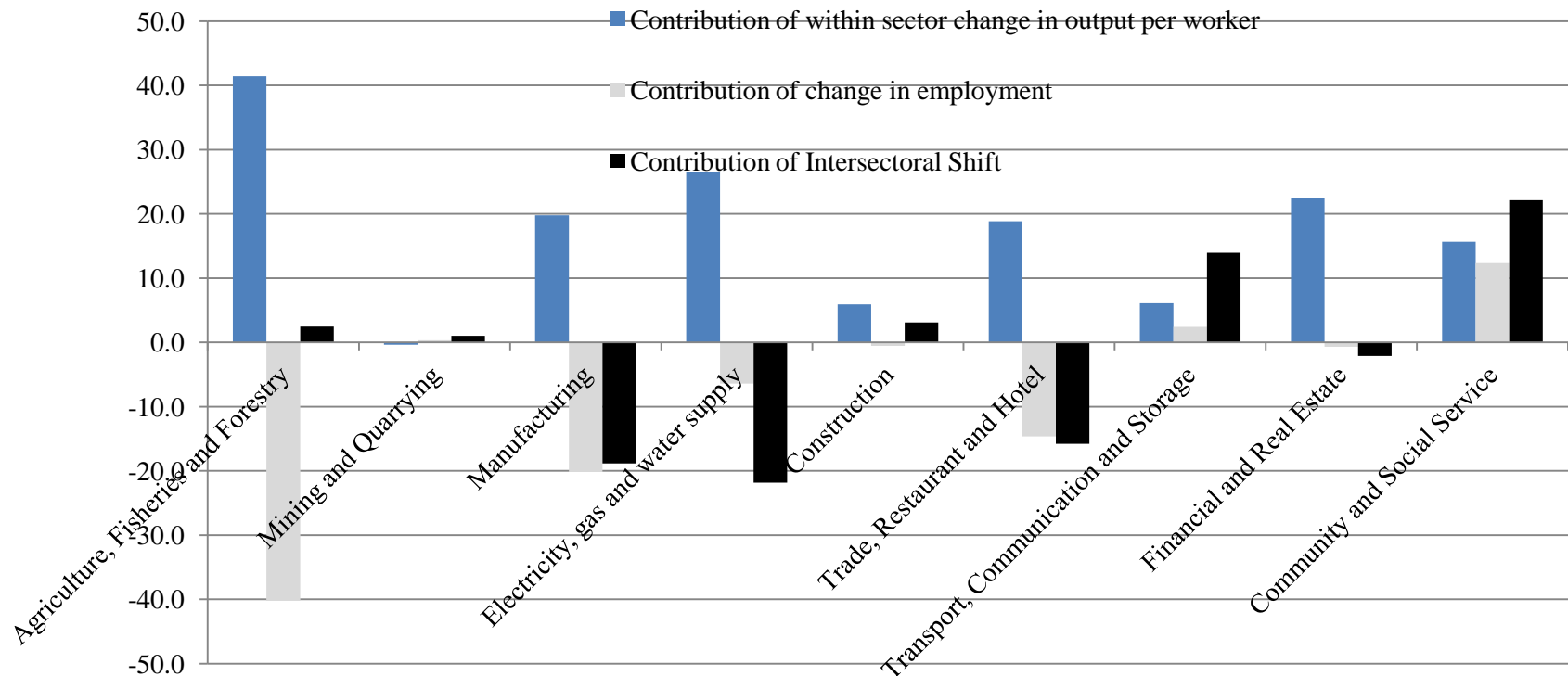
## Decomposition of Output/Worker into Within Sector Change in Output/Worker & Inter-sectoral Shifts

	Contribution to change in total output per worker	
	1991-2001	2001-2011
Agriculture, Fisheries and Forestry	1390.9	2142.7
Mining and Quarrying	-177.9	-19.5
Manufacturing	-1735.8	1022.8
Electricity, gas and water supply	-487.8	1371.9
Construction	-4106.9	307
Trade, Restaurant and Hotel	-1896.4	974.4
Transport, Communication and Storage	-503.2	315.3
Financial and Real Estate	-1525.7	1161.7
Community and Social Service	1129.9	809.3
<b>Inter-sectoral shift</b>	<b>10874.5</b>	<b>-820.9</b>
Total change in output per worker	2961.6	7264.9



## Combining Together Change in Employment Rate and Productivity

- During 2001-2011





## Conclusions and Policy Recommendations

- There is no significant structural change in employment and productivity front, although the share of agriculture in the total GDP has decelerated marginally per year.
- Still, the agricultural sector is the mainstay for two-thirds of populations, but productivity of this sector is very low.
- Sluggish and job-less growth in non-agricultural sector in the recent decade has been compelling the people to go for foreign employment.



## Conclusions and Policy Recommendations, contd.

- Decline in employment in high productive sectors so growth is not inclusive.
- Structural changes have not remained growth enhancing and employment generating.
- This type of growth cannot be inclusive despite increase in productivity in non-agriculture sectors.



## Conclusions & Policy Recommendations, contd.

### Policy Recommendations

- First, productivity in the agricultural sector should be increased through mechanization and commercialization.
- Second, special attention should be given for promoting the manufacturing and service sector, which can generate employment and exhibit the high productivity.
- Third, government should focus on developing human capital necessary for the economy.
- Fourth, construction of physical infrastructure and adequate supply of energy should be ensured for promoting economic activities in the economy.





**Thank You for  
Your Kind Attention!**

**Any Comments & Questions?**