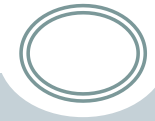


Growth and Challenges



**BIG DATA AND
POLICYMAKING TODAY**

AMIR ULLAH KHAN

MCRHDRI

Public Health Indicators

| | India (2006) | Bangladesh (2007) |
|---|-------------------------|------------------------------|
| Proportion of children who are fully immunized (%) | 44 | 82 |
| Proportion of children who started breastfeeding within 24 hours (%) | 40 | 89 |
| Proportion of children who receive Vitamin A supplements (%) | 25 | 88 |
| Proportion of diarrhoea-affected children treated with ORS (%) | 43 | 85 |
| Proportion of households practising open defecation (%) | 50 | 7.5 |

Open Defecation, 2012

| | Per-capita GDP (PPP) | % of hohos practicing OD |
|-----------------------------|-------------------------|-----------------------------|
| India | 5,050 | 48 |
| Sub-Saharan Africa | 3,171 | 25 |
| Low-income countries | 1,575 | 21 |
| Afghanistan | 1,892 | 15 |
| Bangladesh | 2,364 | 3 |
| Vietnam | 4,912 | 2 |
| China | 10,771 | 1 |

Child Immunization Rates, 2012 (%)

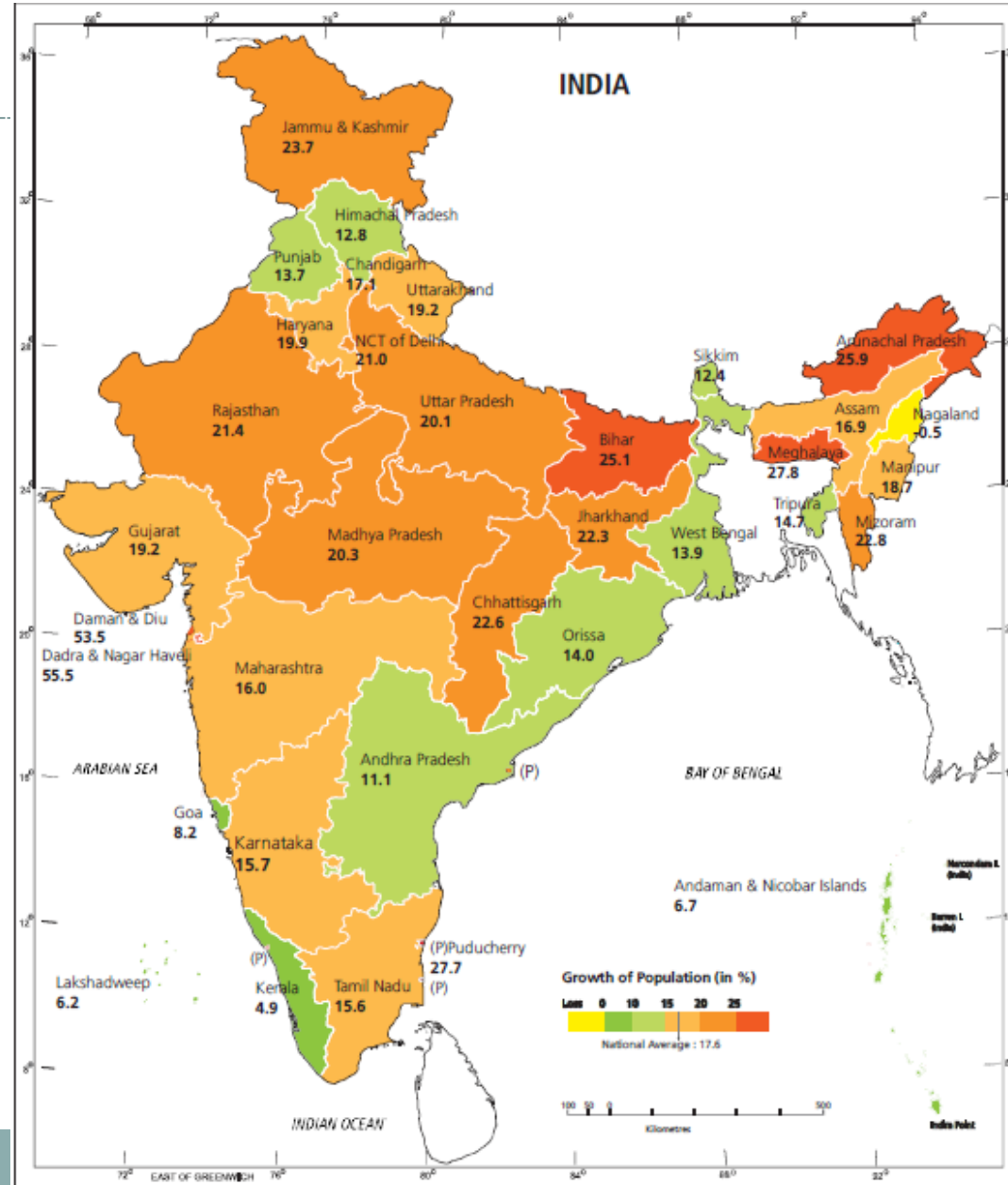
| | BCG | DPT | Measles |
|--|-----|-----|---------|
| India | 87 | 72 | 74 |
| Sub-Saharan Africa | 84 | 77 | 75 |
| 'Least developed countries' | 84 | 80 | 78 |
| Bangladesh | 94 | 95 | 94 |
| Number of countries doing worse than India | 26 | 16 | 25 |

Growth and Challenges

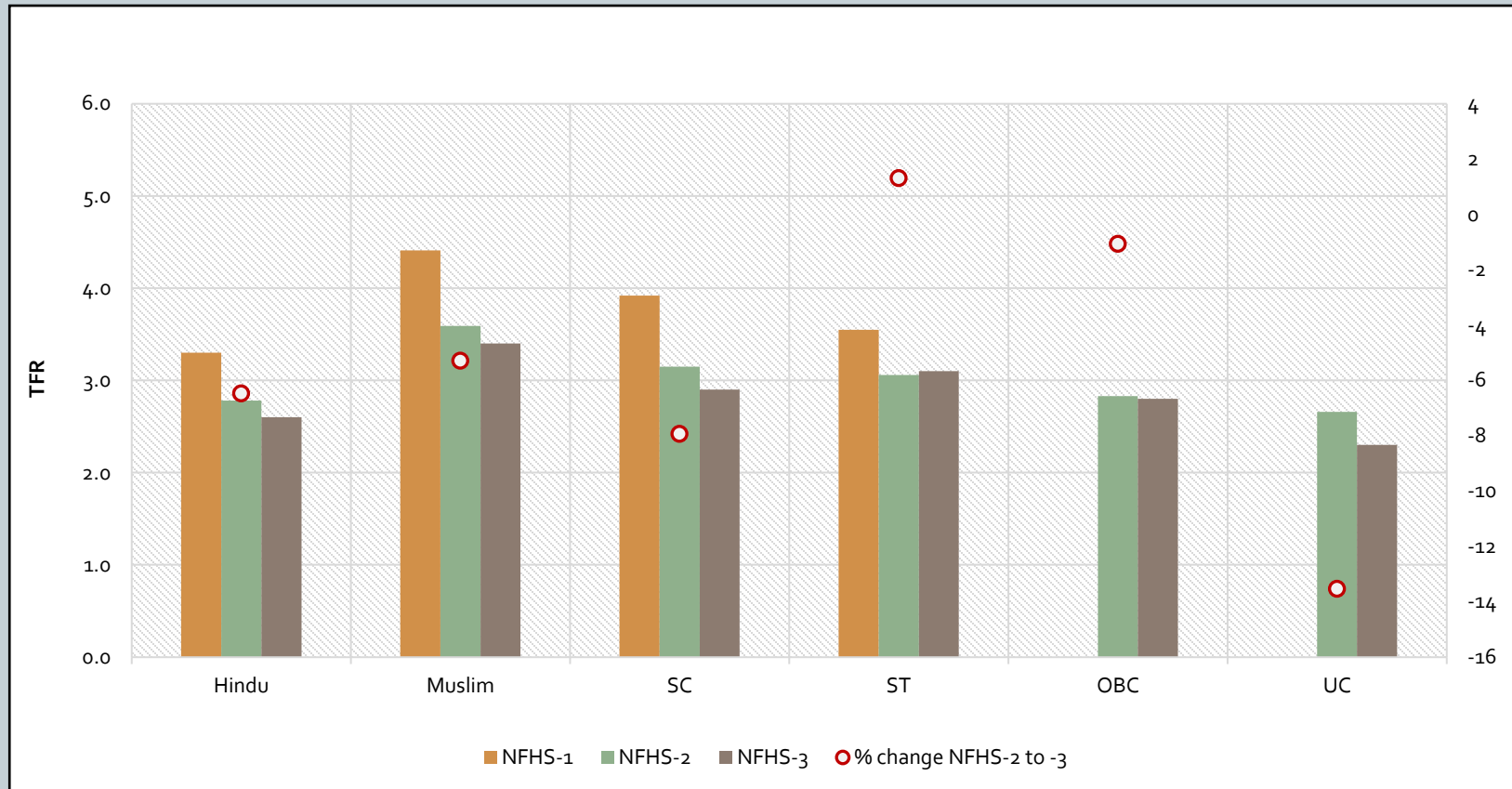


POPULATION GROWTH

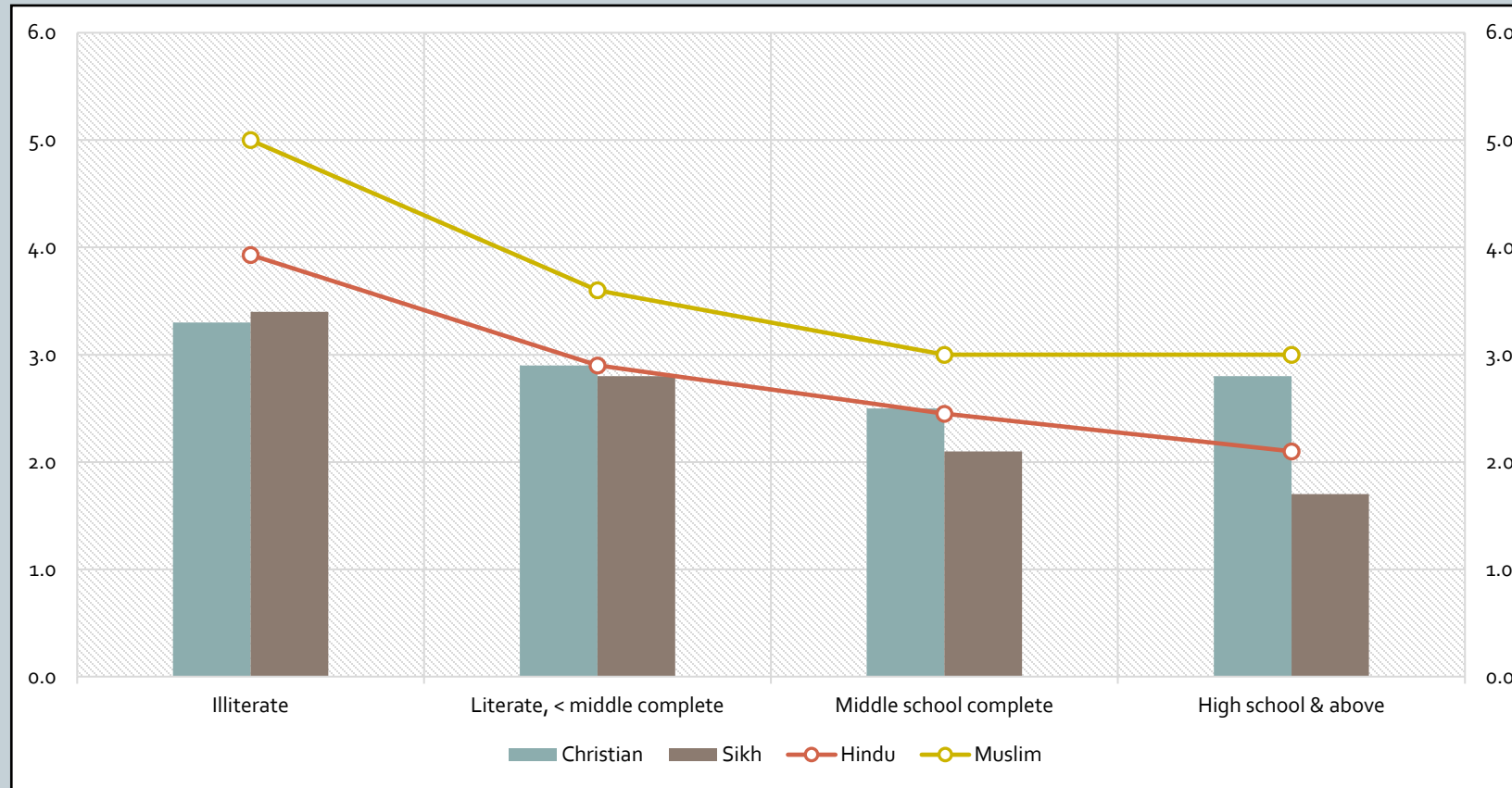
Growing India



Total Fertility Rate (TFR), NFHS I to NFHS III



TFR by Educational Level, NFHS I



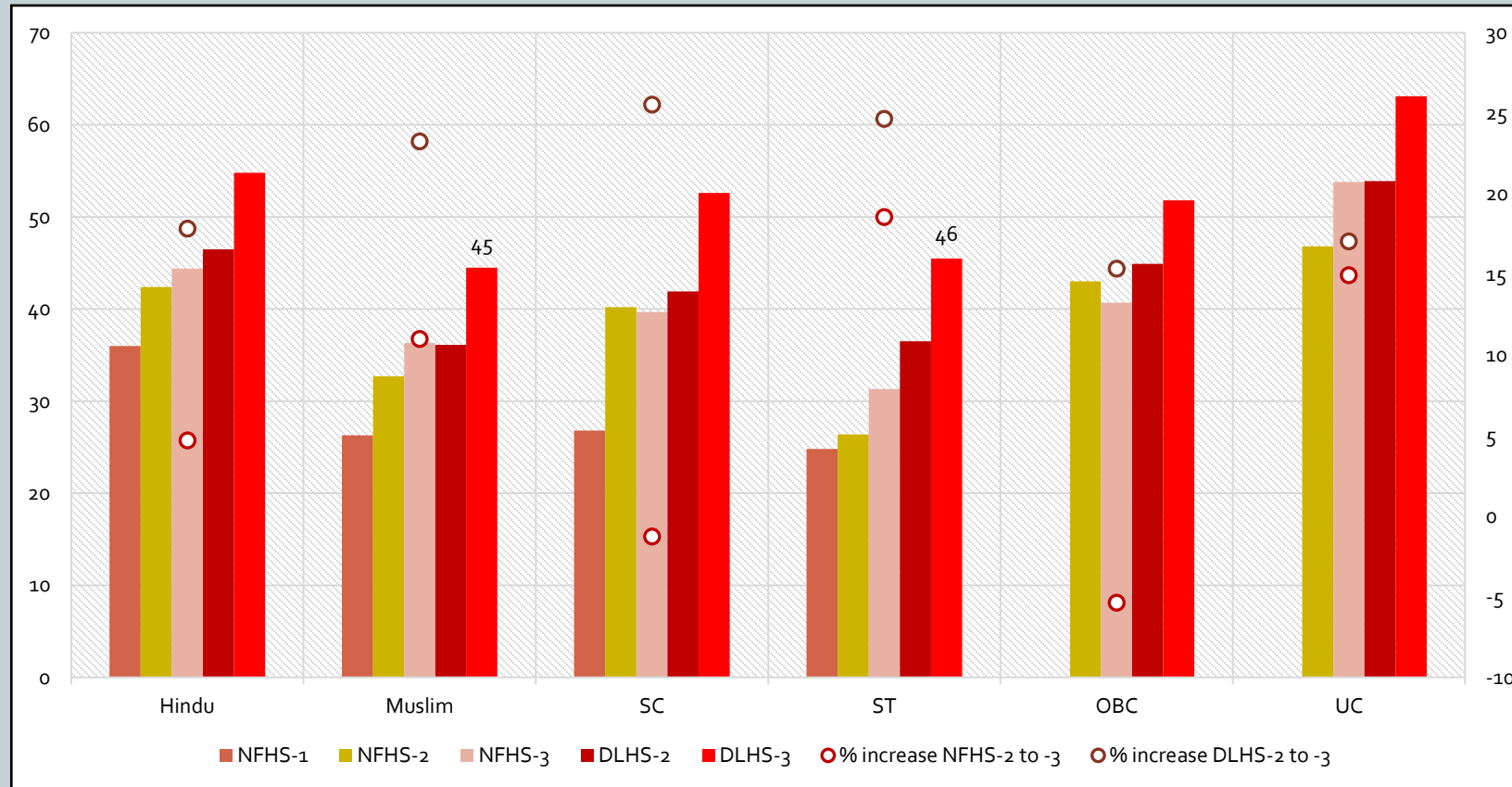
Growth and Challenges



HEALTH

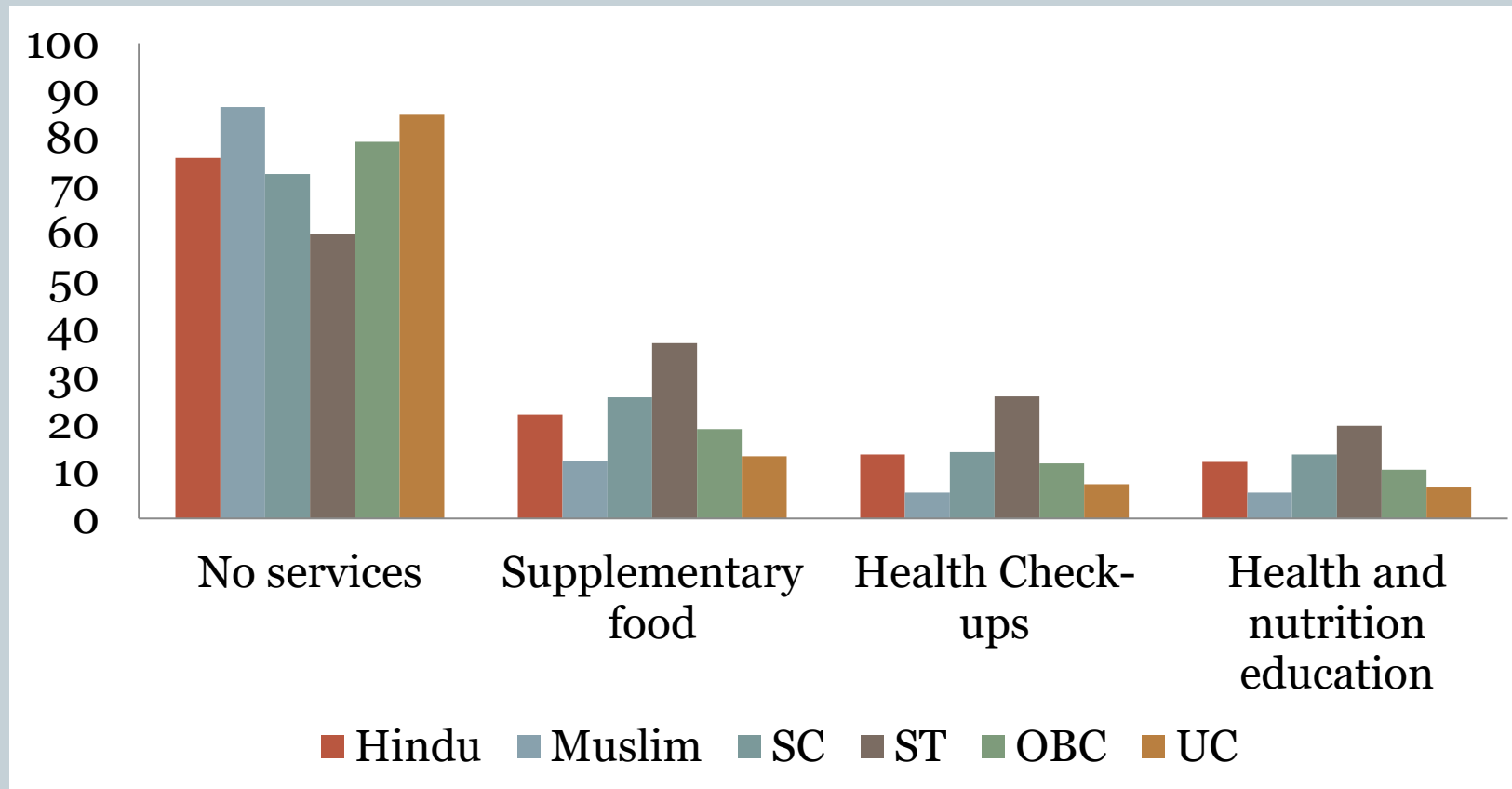
Percentage of Children (12-23 months) who Received Full Vaccination

NFHS-I to NFHS-III and DLHS-II to DLHS-III

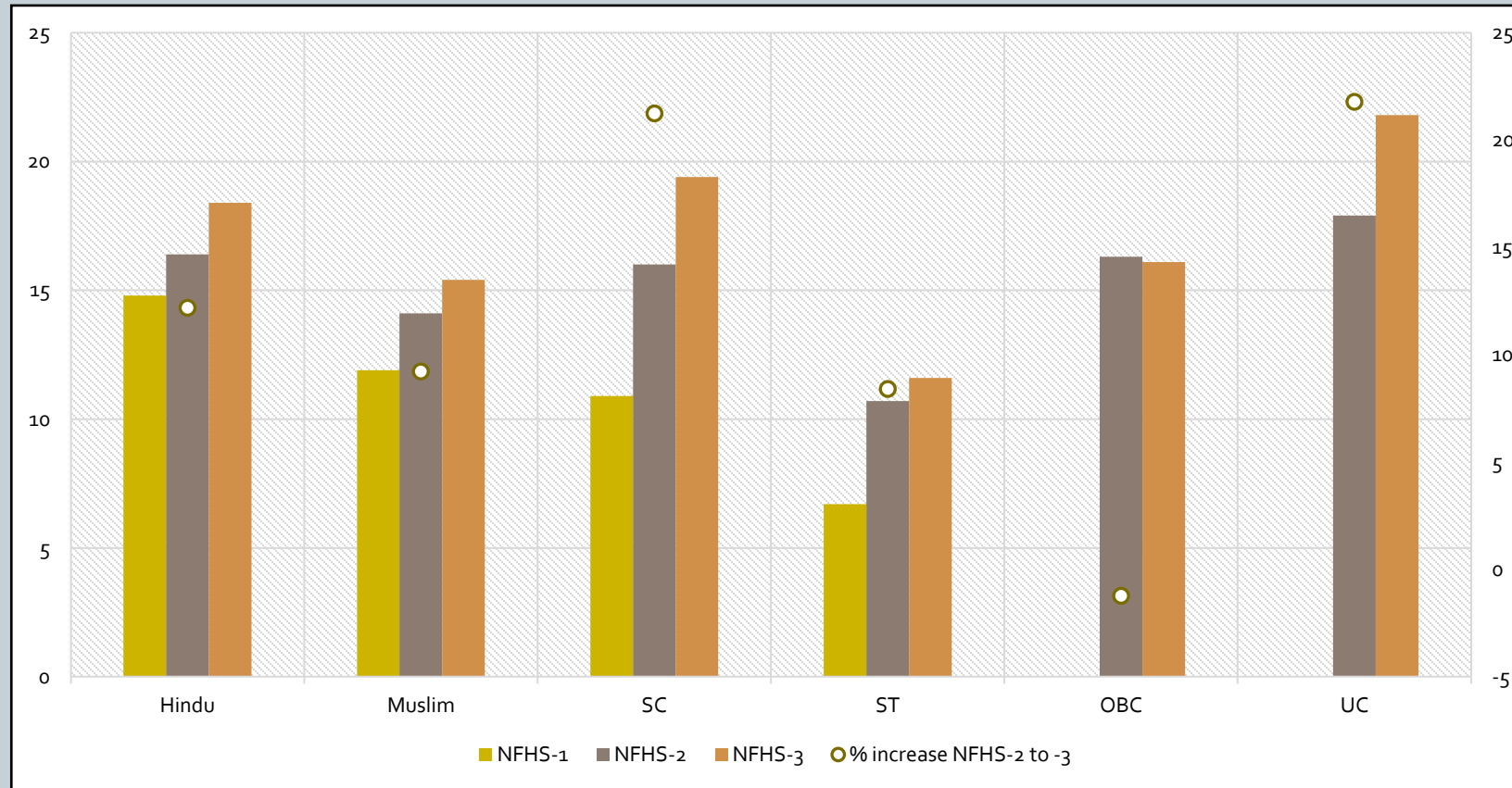


Utilization of ICDS Services among Mothers of Children (under 6 years) in Areas covered by AWC

NFHS-3

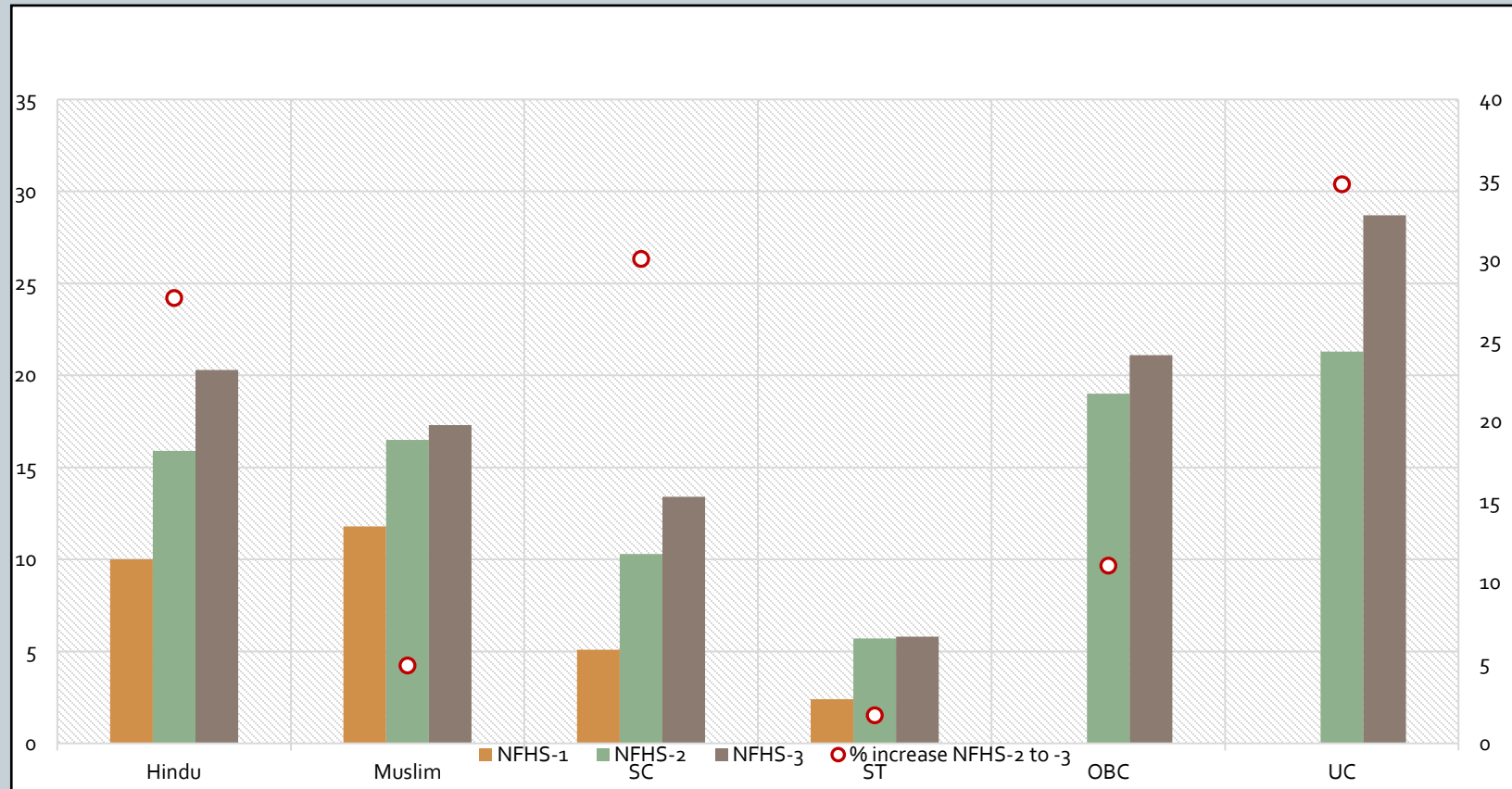


Percentage of Live Births Delivered in a Public Health Facility, NFHS-I to NFHS III

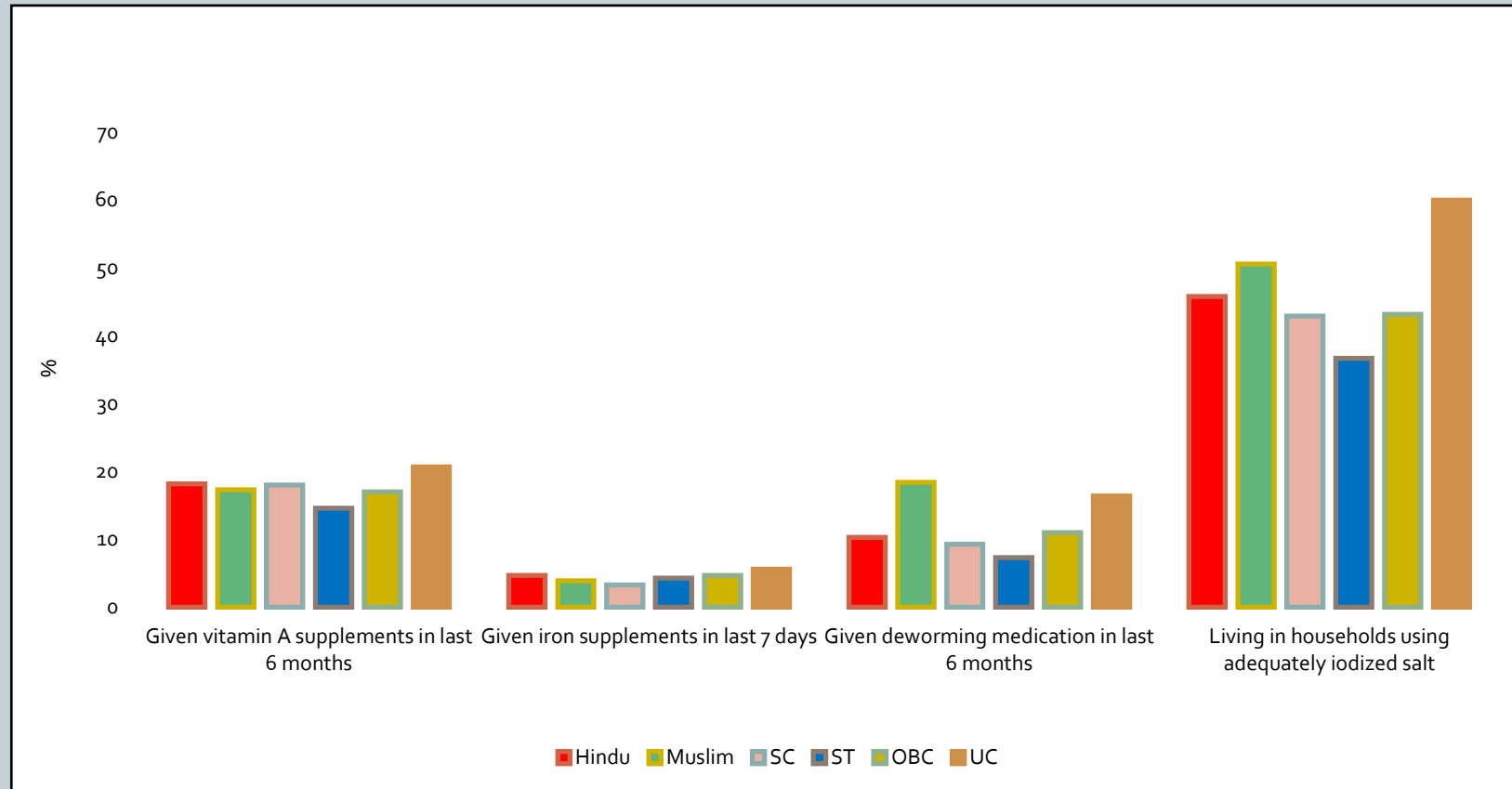


Percentage of live Births Delivered in a Private Health Facility

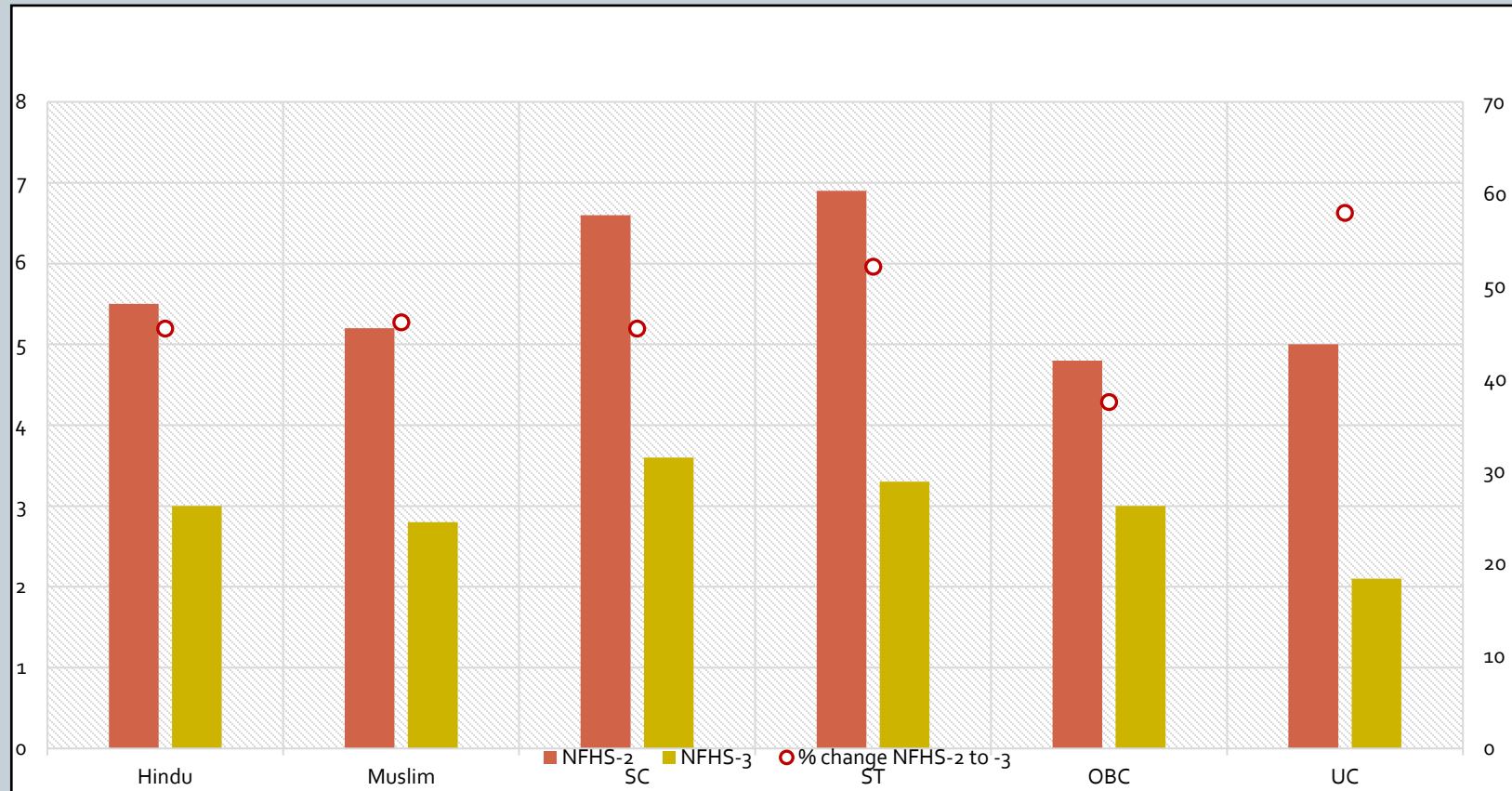
NFHS I to NFHS III



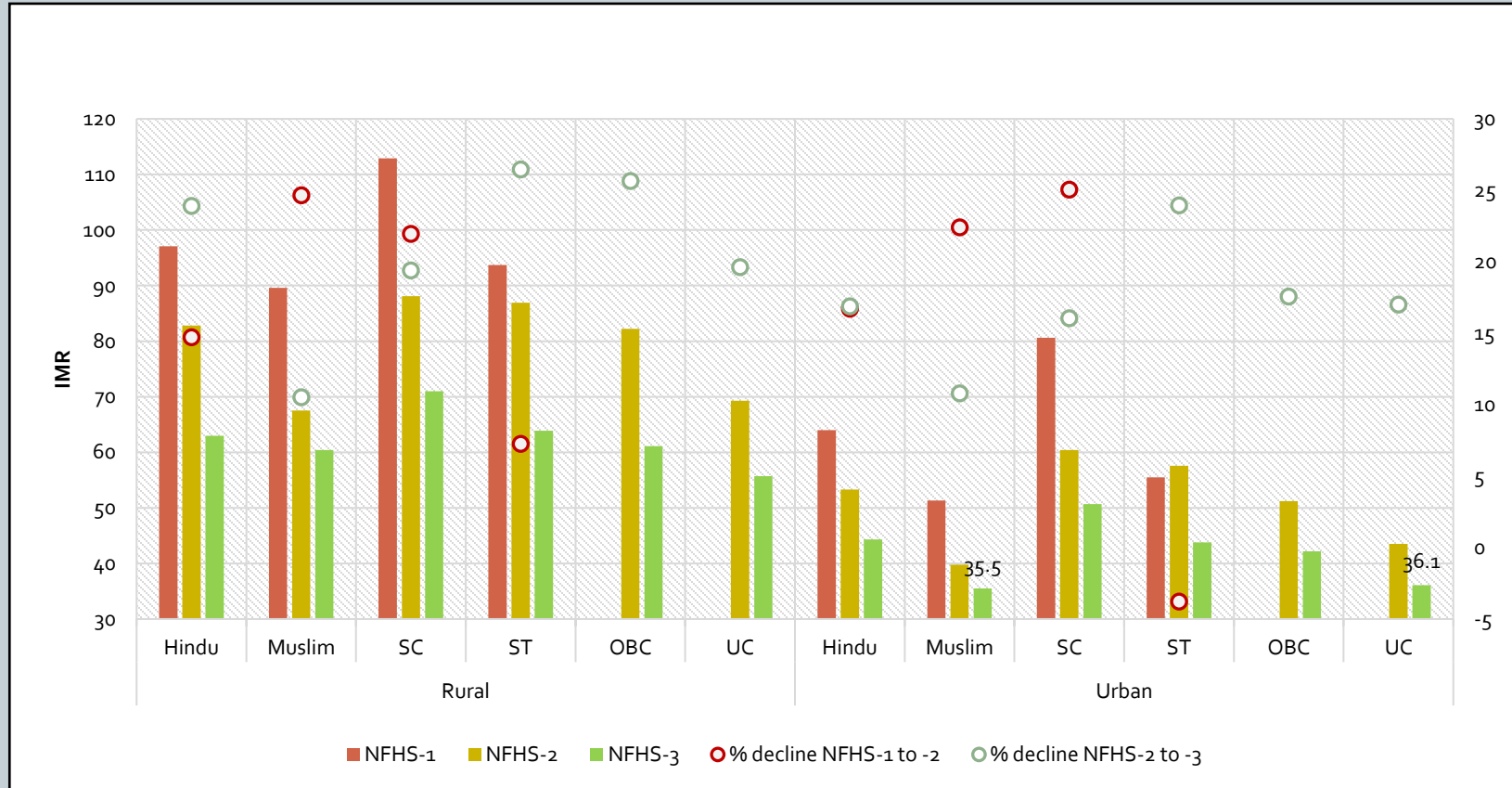
Micronutrient Intake among Children (6-59 months) NFHS-III



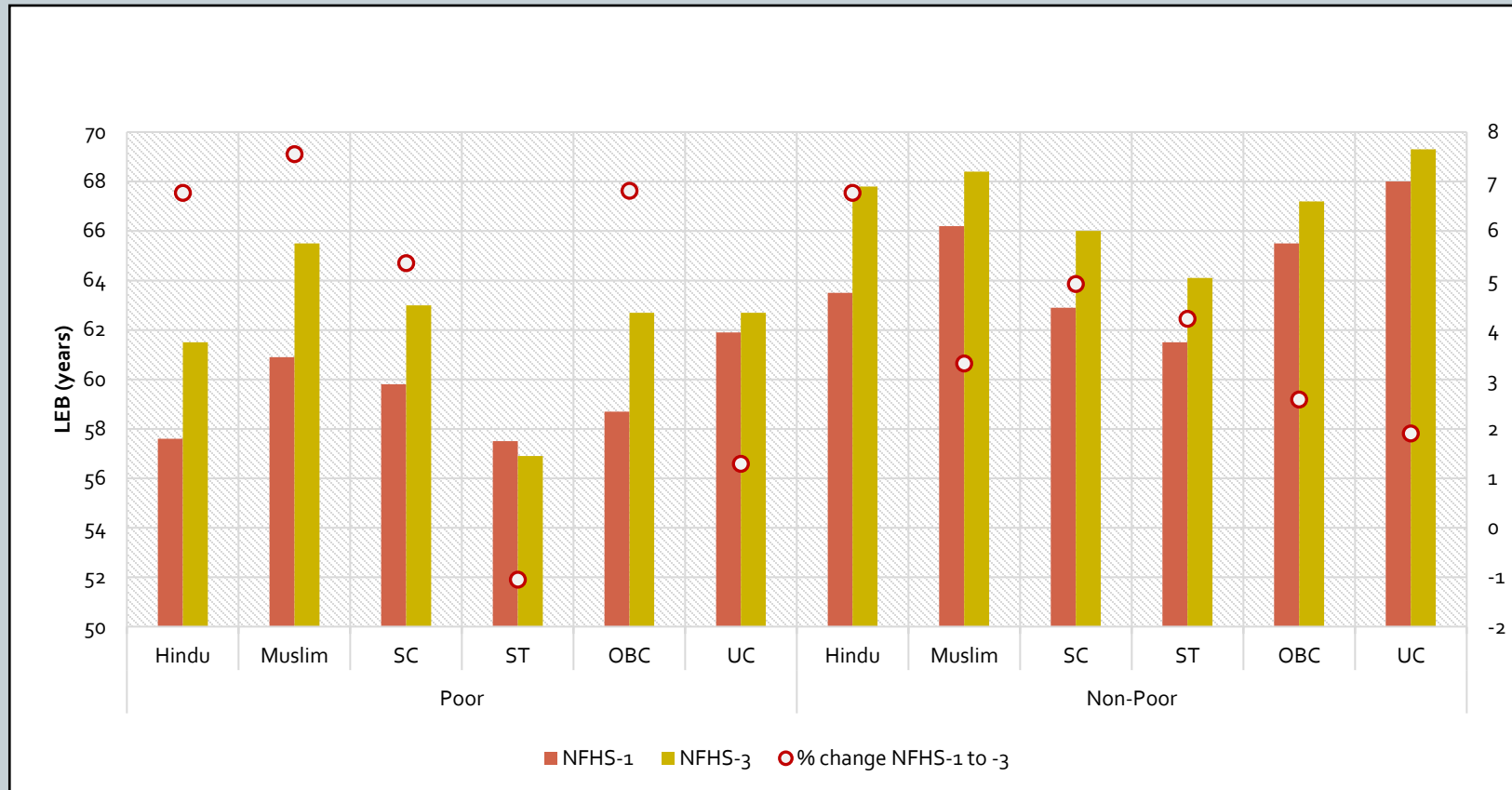
Percentage of Children (6-59 months) with Severe Anemia (<7.0 g/dl), NFHS-II to NFHS-III



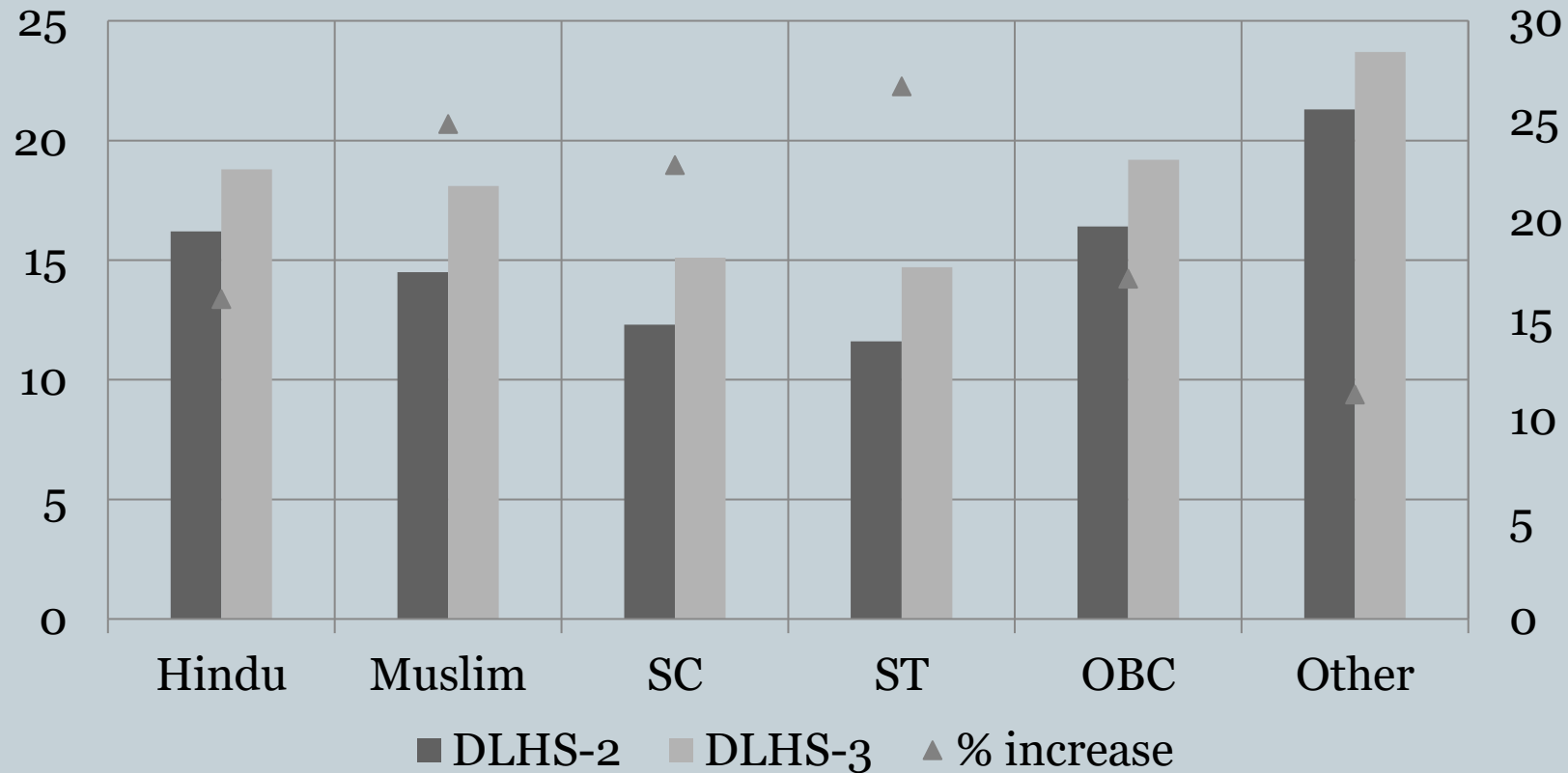
Infant Mortality Rate (IMR) by residence, NFHS I to NFHS III



Life Expectancy at Birth (LEB) by Poverty NFHS I and NFHS III

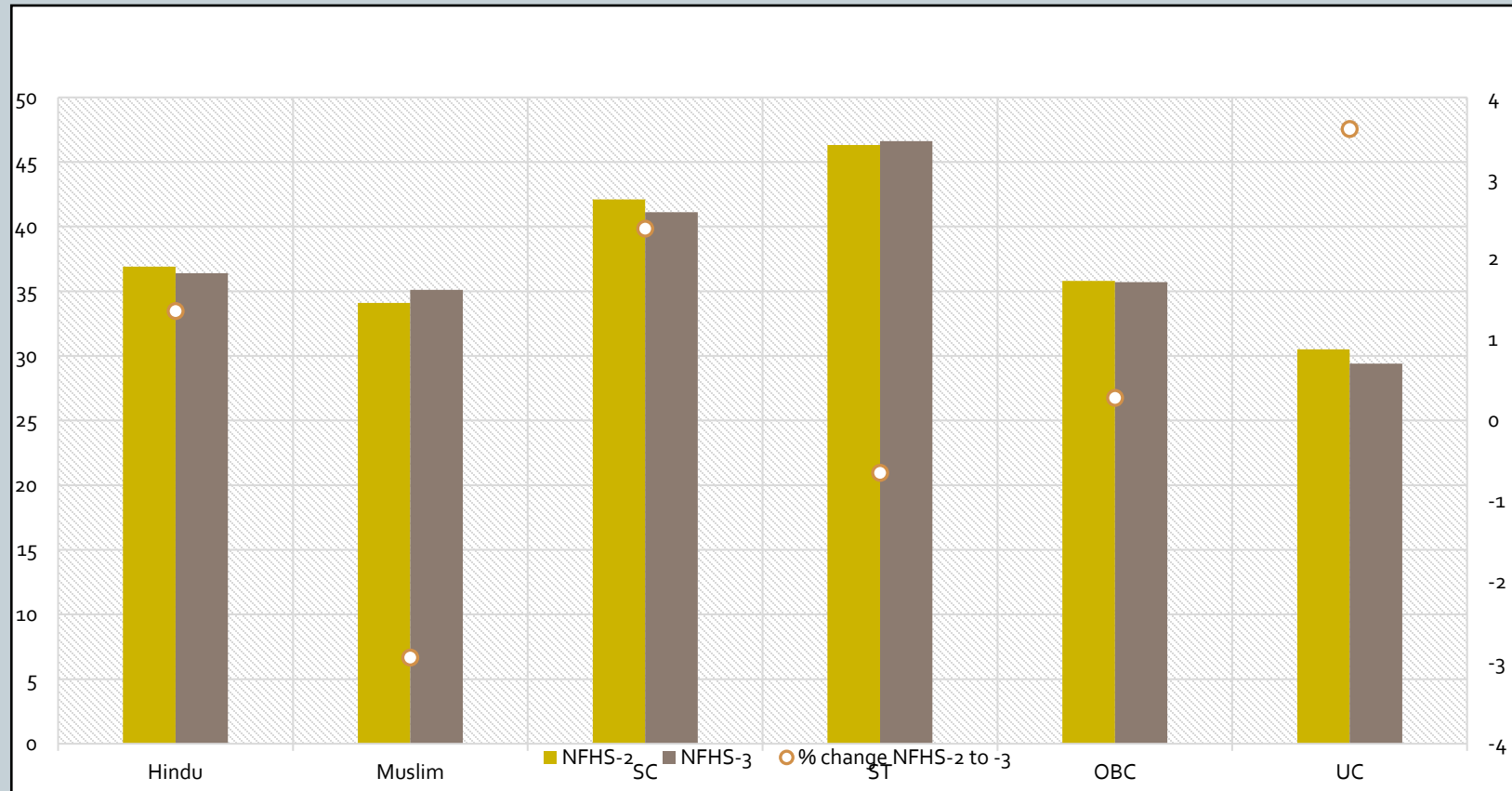


Percentage of Married Women (15-49 years) who Received Full Antenatal Checkup DLHS II and DLHS III

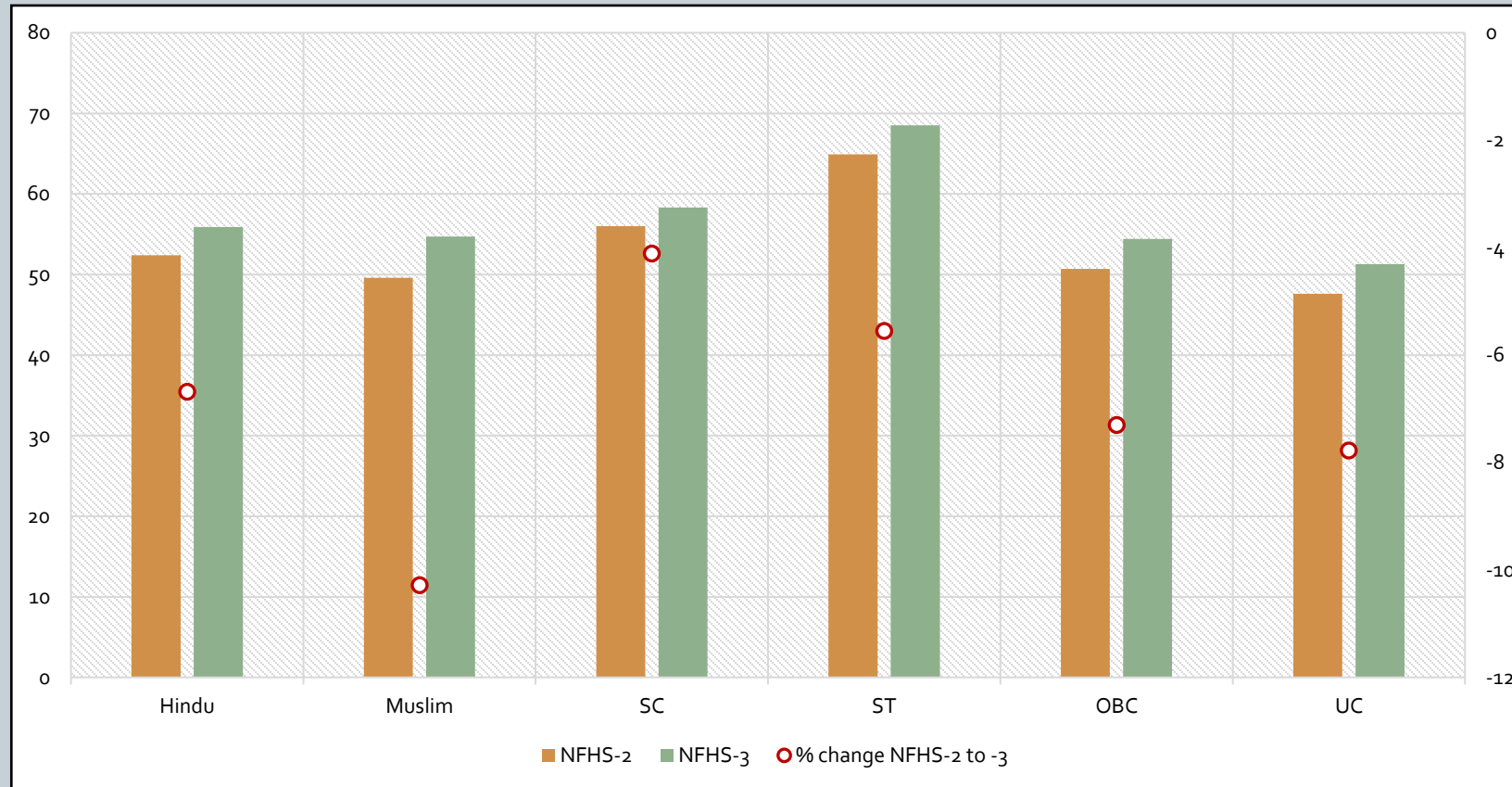


Percentage of Women (15-49 years) with Chronic Nutritional Deficiency (BMI less than 18.5)

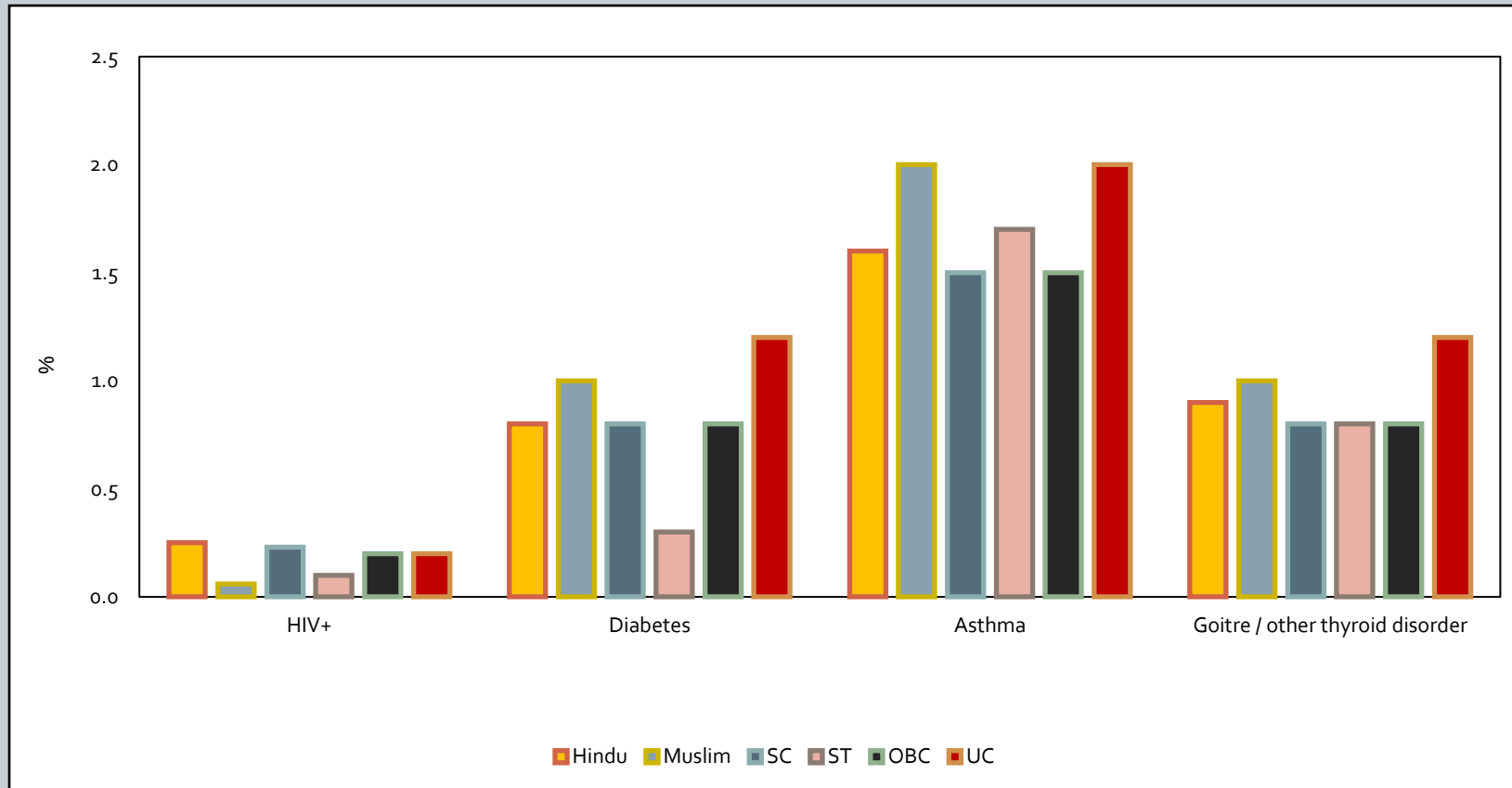
NFHS II to NFHS III



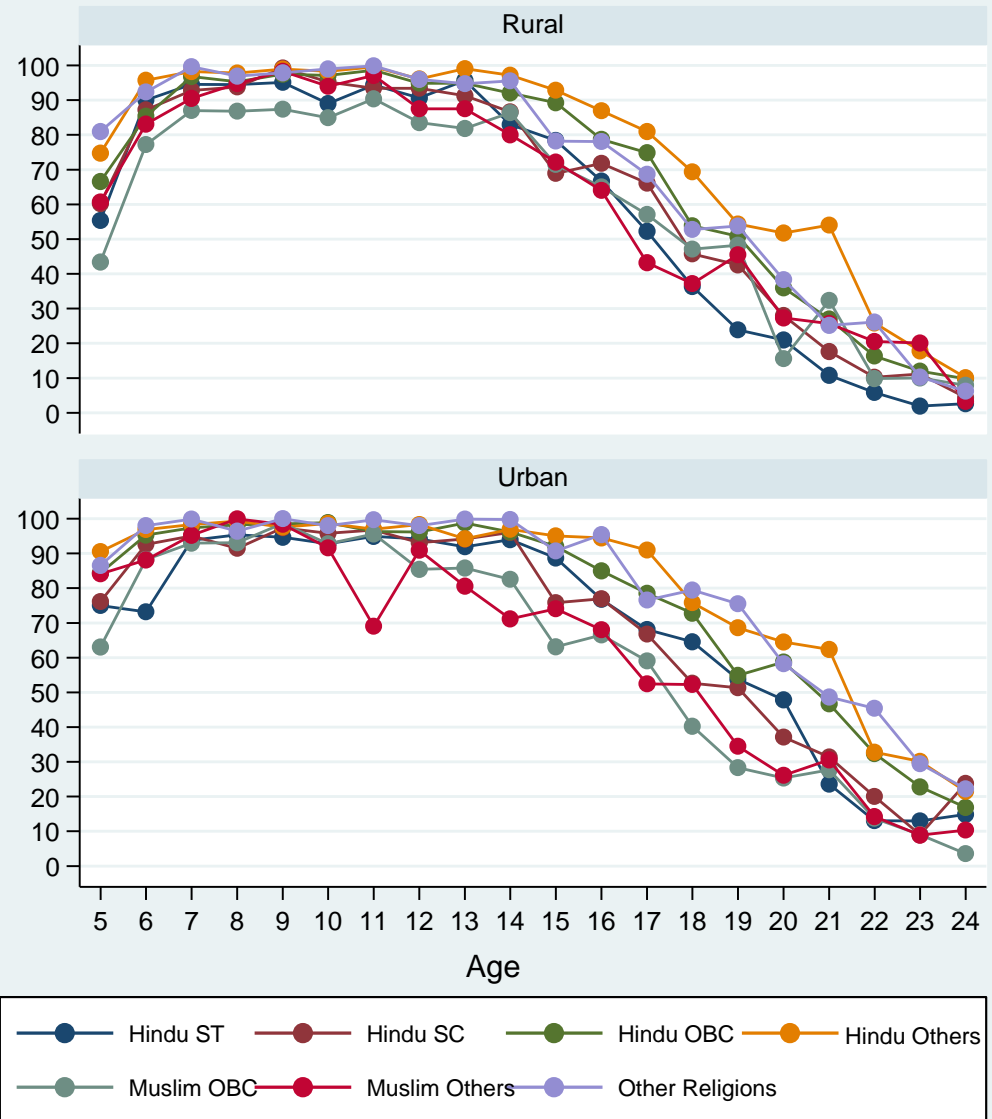
Percentage of Anemic Women (15-49 years) NFHS II and NFHS III



Health Problems among Women (15-49 years) NFHS-III

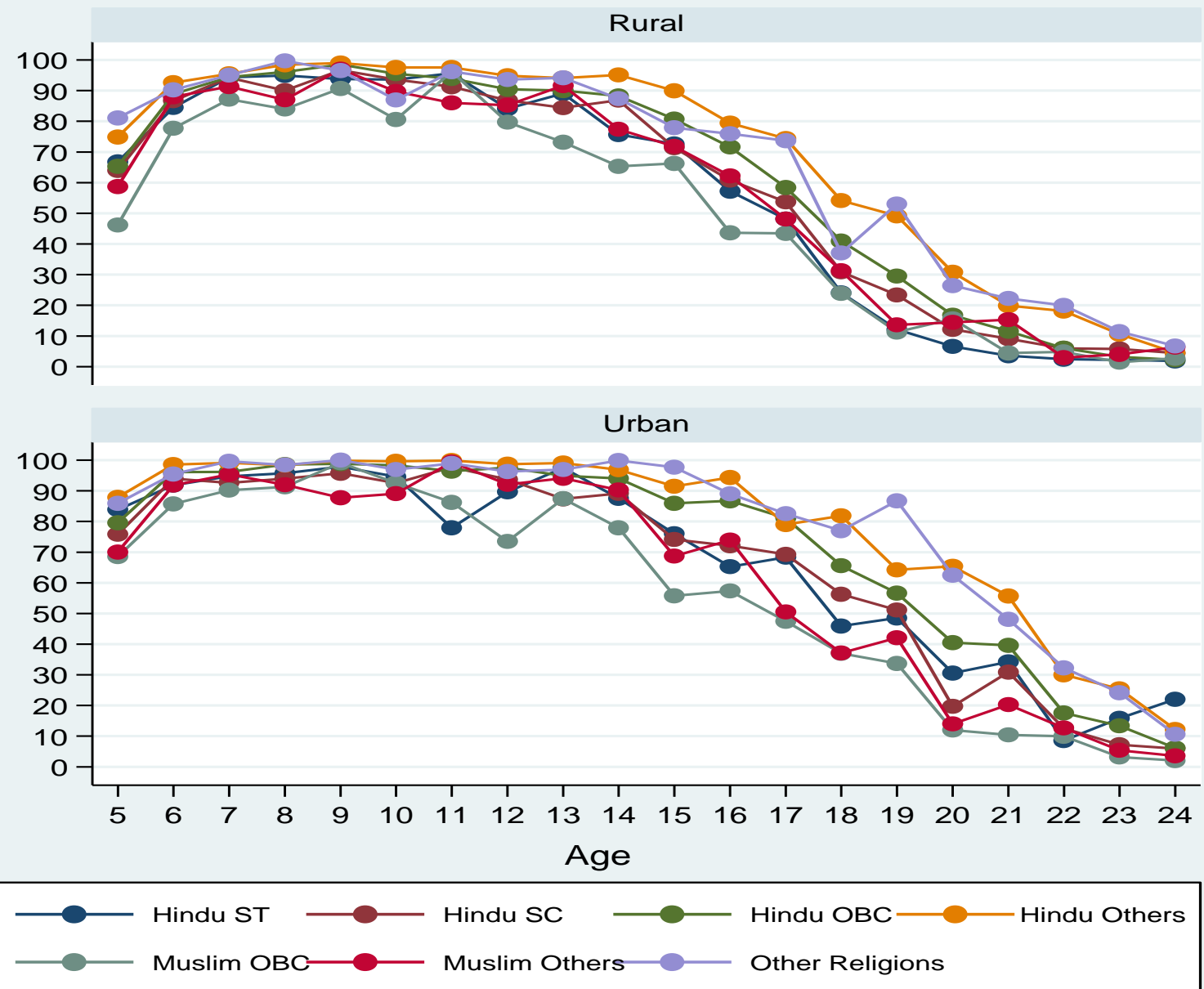


Percentage of Male in the 5-24 age attending Educational Institutions-61st Round(2004-05)



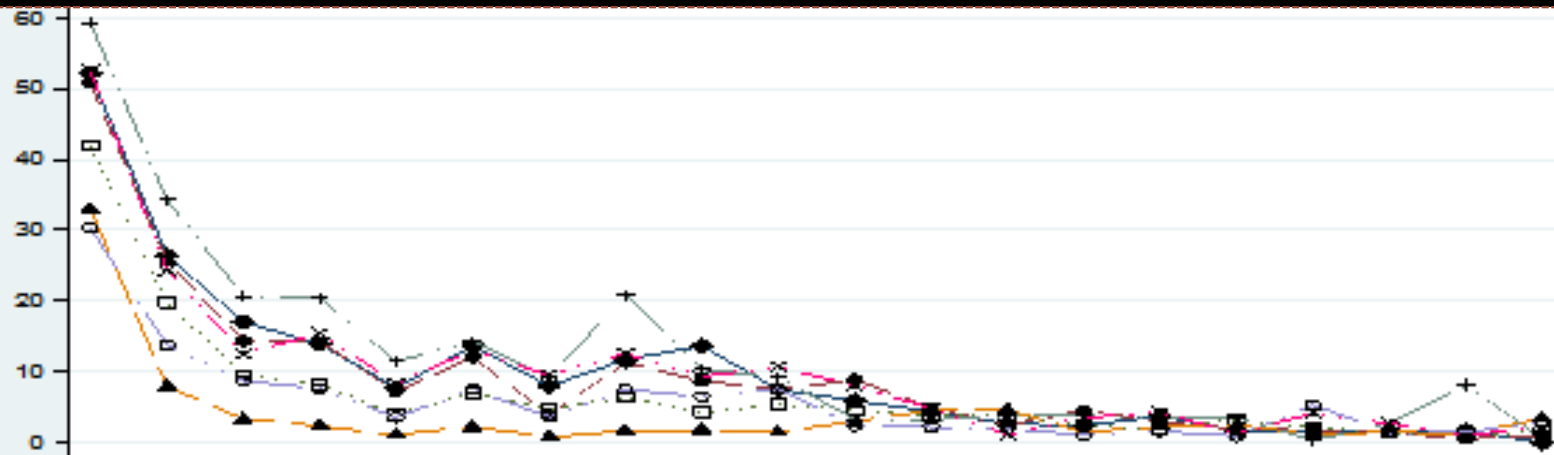
Graphs by Sector

Percentage of Female in the 5-24 age attending Educational Institutions-61st Round(2004-05)

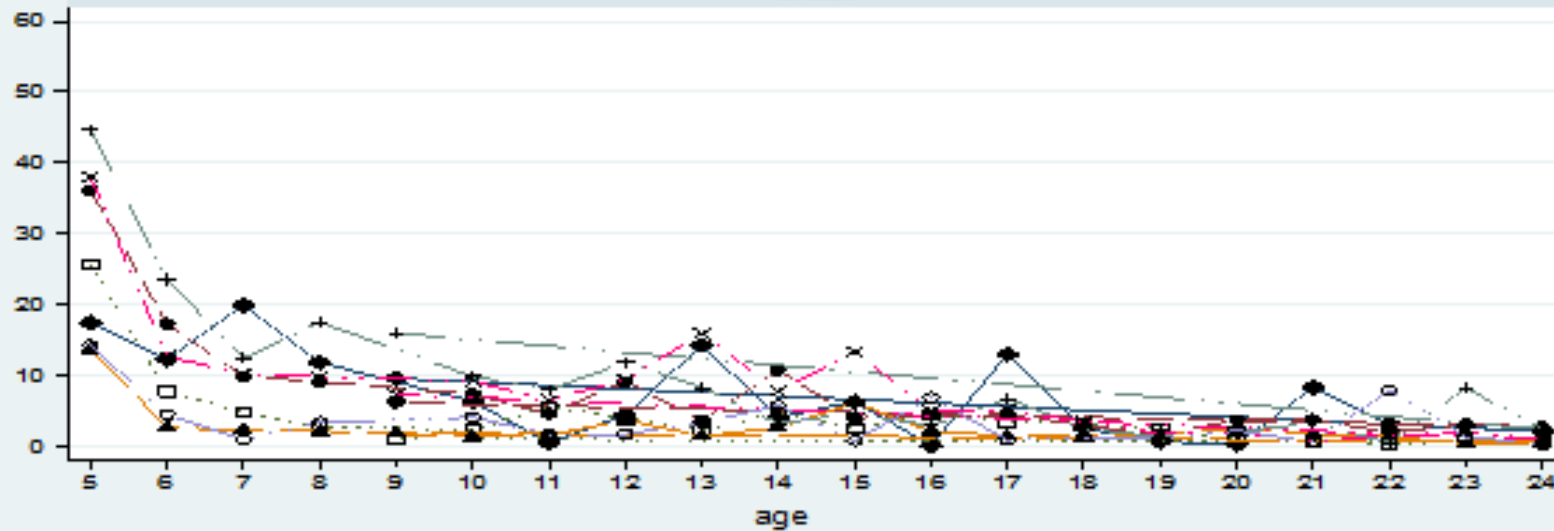


Graphs by Sector

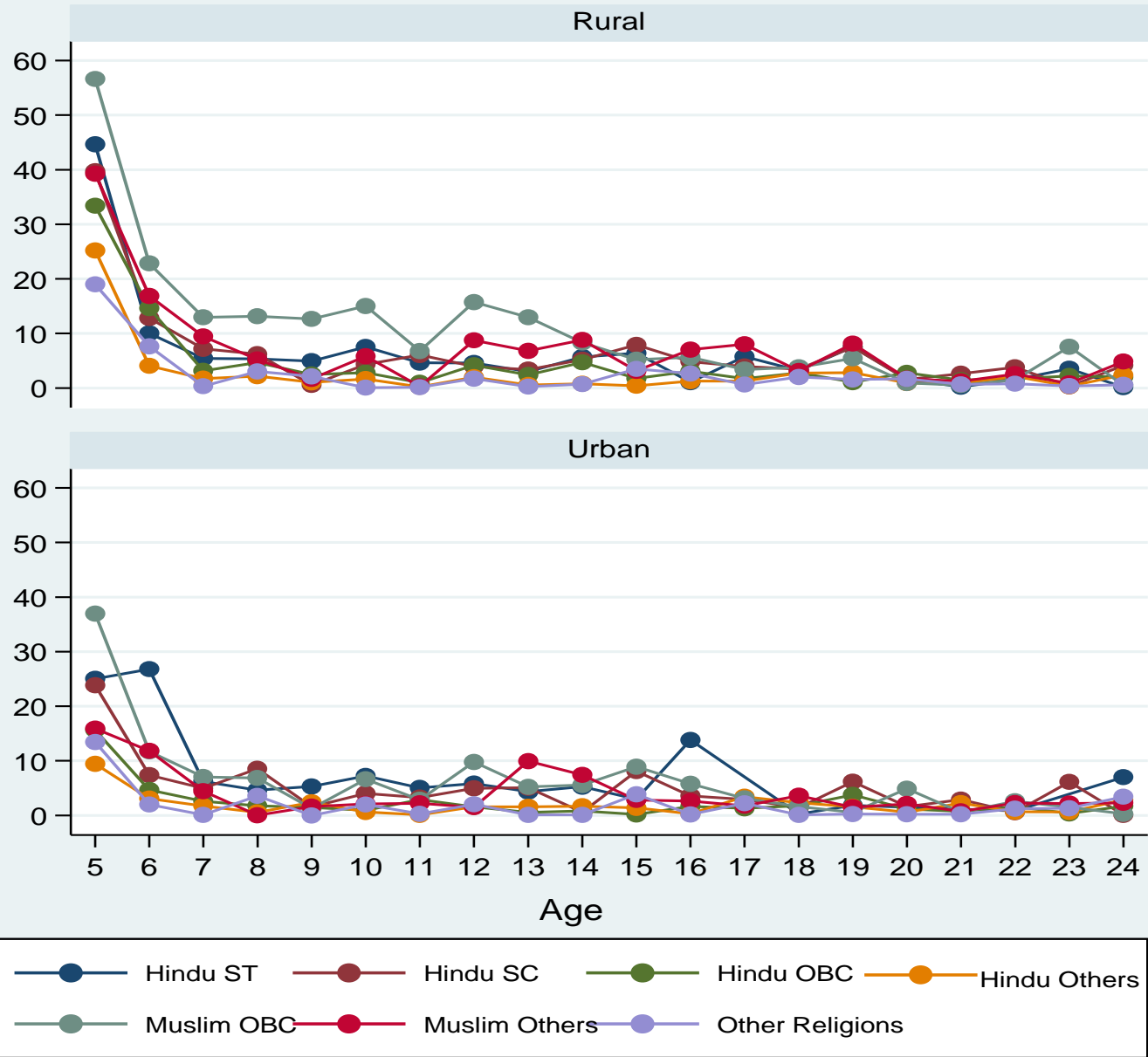
Percentage of Male in the 5-24 Age not in Labour Force or Educational Institutions in rural and urban areas - 61st Round (2004-05)



Urban



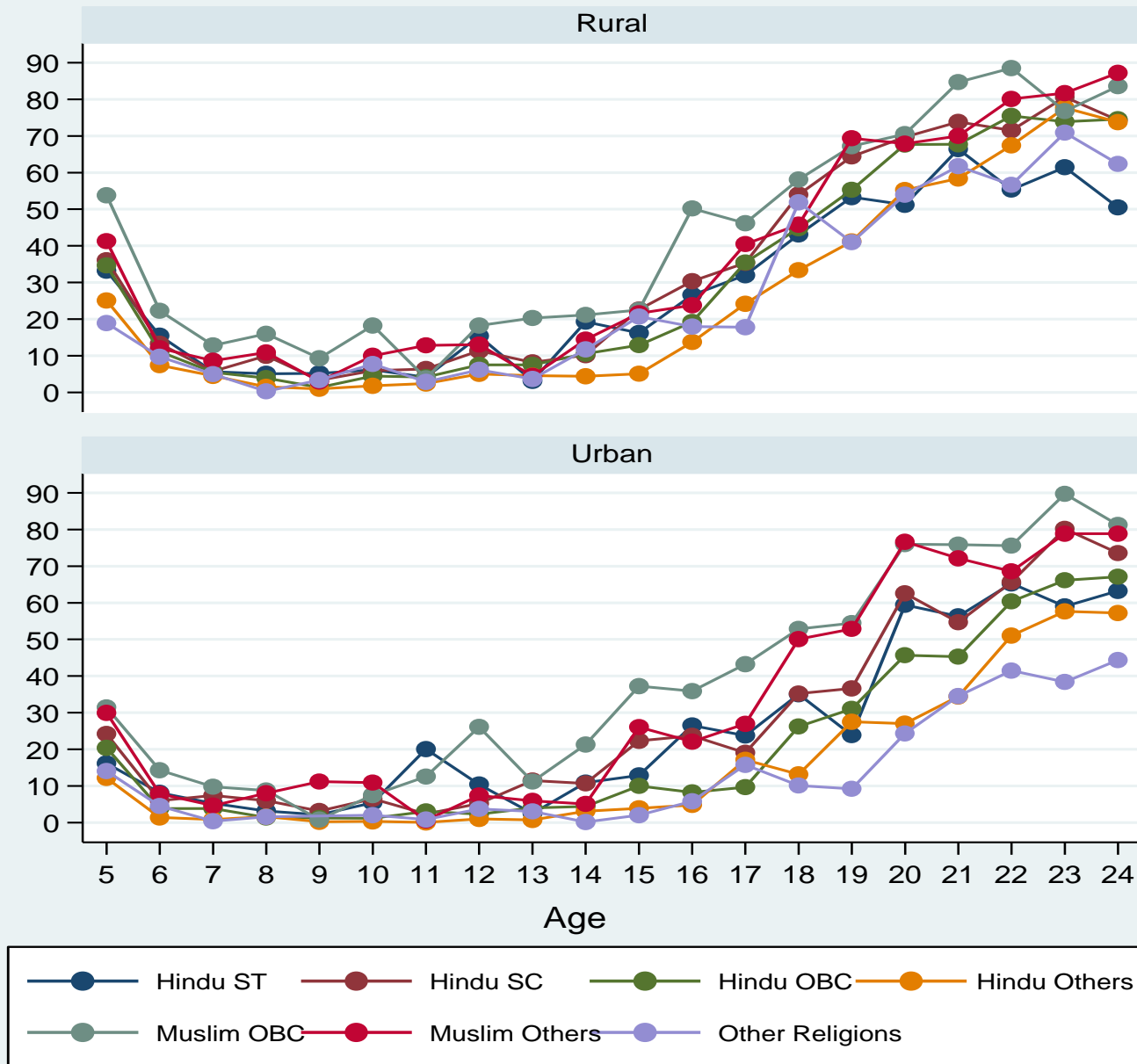
Percentage of Male in the 5-24 age not in Labour Force or Educational Institutions-68th Round(2011-12)



Graphs by Sector

Percentage of Female in the 5-24 age not in Labour Force or Educational Institutions-61st Round(2004-05)

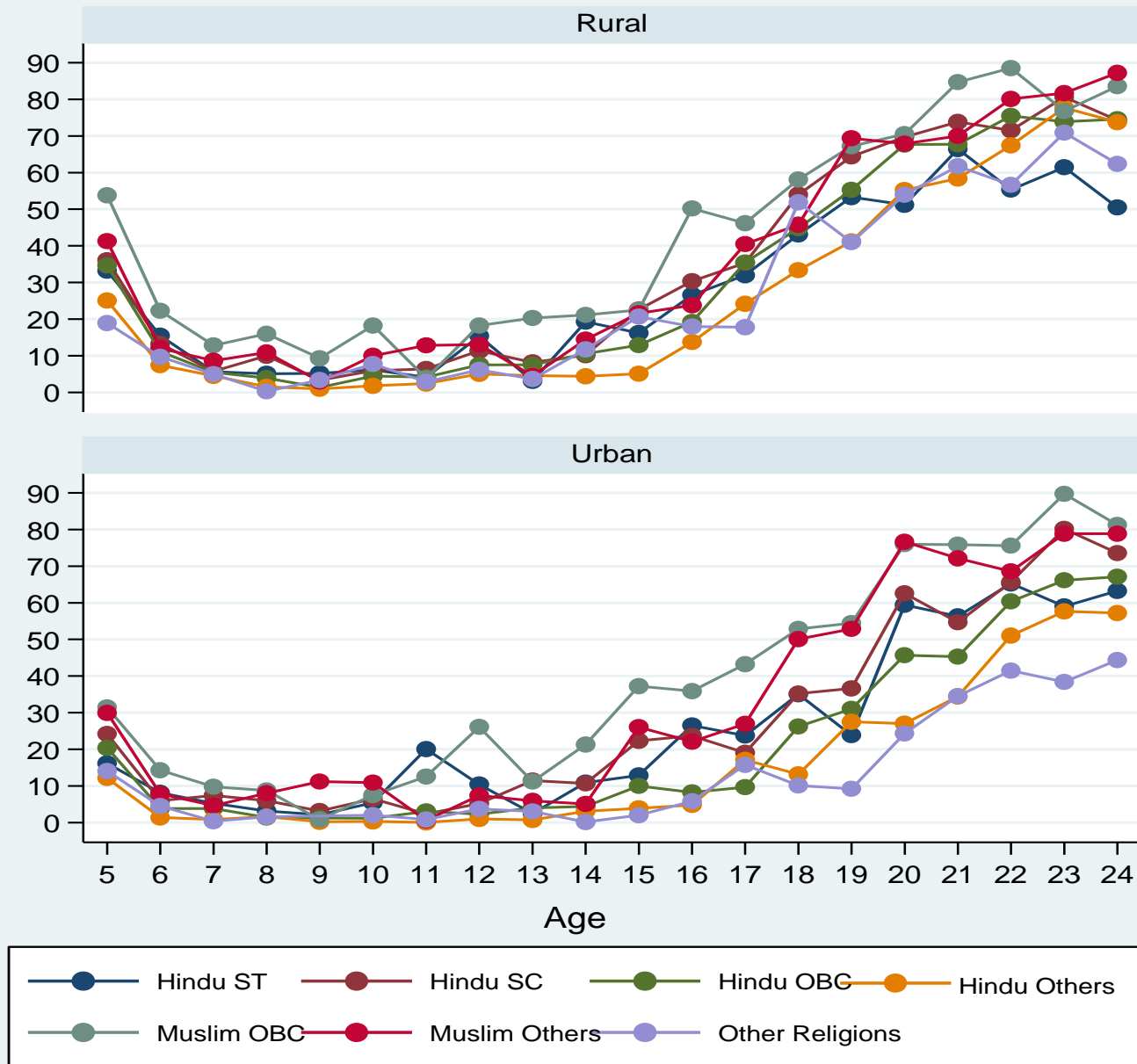
EISEWIEIE



Graphs by Sector

Percentage of Female in the 5-24 age not in Labour Force or Educational Institutions-68th Round(2011-12)

EISEWRIERE



Graphs by Sector

(Kenneth Arrow, 1963, “Uncertainty and the Welfare Economics of Medical Care”)



“It is the general social consensus, clearly, that the laissez-faire solution for medicine is intolerable.”

“From these special relations [of trust etc.] come... various forms of ethical behavior... and... also... the relative unimportance of profit-making in hospitals. *The very word, ‘profit’, is a signal that denies the trust relations.*”

(Kenneth Arrow, 1963)

Market Failure 1: “Externalities”



Examples:

- Communicable diseases
- Vaccination, sanitation, hygiene, waste disposal...
- Influence of social norms

The entire field of “public health” is concerned with communicable diseases and other health-related externalities.

Failure 2: “Misguided decisions”



(1) People may not know their best interest; (2) They may find it difficult to pursue their best interest; (3) Intra-households conflicts of interest.

Some examples:

- People may not be aware that junk food is bad for health
- Smoking and other addictions (most smokers wish they had never started smoking).
- A pregnant woman may need rest and good food, but this may not be the priority of the hh head.
- Young child feeding.
- Influence of advertisement!

Failure 3: “Moral hazard”

“Asymmetric information” is a huge source of exploitation in the field of health.

Examples:

- “*Jhola chhaap*” doctors.
- Over-medication.
- Excessive diagnostics.
- Unnecessary Ceasarians, hysterectomies, etc.
- Irresponsible behaviour of insured (or insurer!).



Failure 4: Uncertainty, insurance and adverse selection



The market solution to uncertainty is insurance, but the insurance market itself is problematic. One major problem is “adverse selection”.

Example: Smokers and non-smokers

“Underwriting” is one answer, but it raises equity issues...

Other issues with commercial insurance



- High administrative costs
- Advertisement costs
- Bargaining costs
- Litigation costs
- **Monitoring problems**
- Bias towards tertiary care
- Breeds powerful lobbies

US system is based on commercial health insurance. Costs 16% of GDP, lousy results...

“Poor health at high cost”

(Source: Wikipedia entry on Canada health system)

| | US | UK | Canada |
|--|-----------|-----------|---------------|
| Life expectancy (years) | 78 | 81 | 81 |
| Infant mortality rate (per 1,000) | 6.9 | 4.8 | 4.5 |
| Physicians per 1,000 people | 2.4 | 2.5 | 2.2 |
| Per-cap exp on health (US\$) | 7,290 | 2,992 | 3,895 |
| Health exp as % of GDP | 16 | 8 | 10 |
| % of health costs paid by | 45 | 82 | 70 |

Failure 5: Economies of Scale



Examples:

- Computerized medical records
- Risk-pooling
- Laboratory facilities
- Ambulance services

Possible remedies



- Taxes and subsidies (e.g. tobacco tax)
- Regulation (e.g. accreditation of doctors)
- Public provision (e.g. vaccination camp, PHCs)
- Non-profit institutions (e.g. trade unions)
- Non-profit insurance (e.g. national insurance)
- Compulsory insurance (Obamacare)
- Health education and social norms
- Professional ethics!

Equity and the right to health



Even in “ideal” conditions, market allocation may leave poor people deprived of health care. This is deemed unacceptable today, especially in democratic societies.

Basic principle of “universal health care” (UHC):

“No-one should be deprived of health care because of his or her inability to pay.”

UHC: Two Basic Approaches



- (1) *Public service* (e.g. UK, Scandinavia, Italy, Spain, Sri Lanka, Cuba)

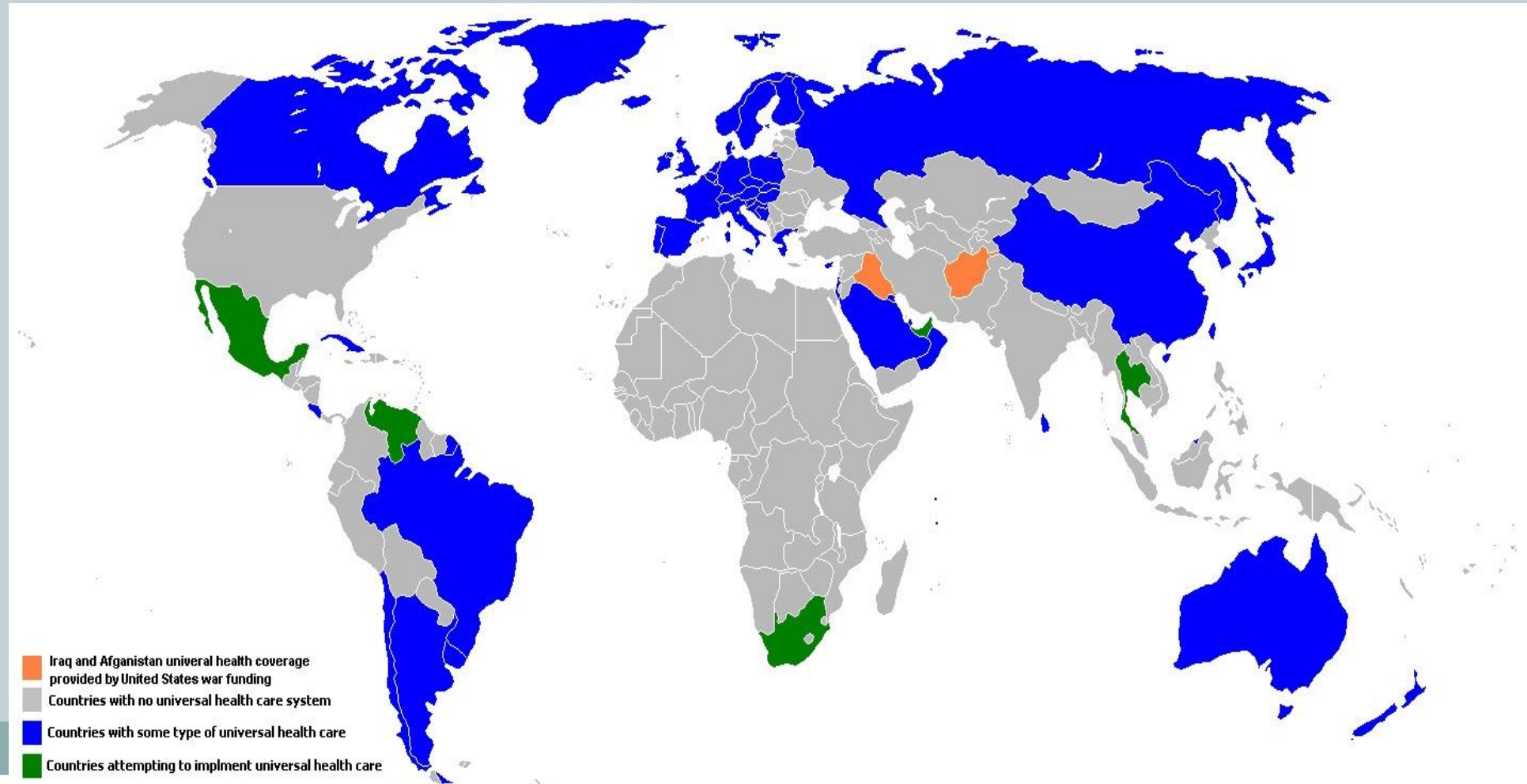
- (2) *Social insurance*:
 - 2a) National insurance (e.g. Canada, Thailand)
 - 2b) Multiple *non-profit* insurance funds (e.g. Germany, France, Japan)

How to Contain the Costs?



- Cost-sharing: User fees, prescription fees, co-payments, deductibles, etc.
- Single-payer system
- Gate-keeping
- NHS/NICE approach: block grant + guidelines
- Capitation (vs “fee for service”)
- Promotion of preventive health care

UHC in the World Today



Some useful lessons



- UHC is not a fanciful idea
- There are several routes to UHC
- Commercial insurance is not one of them
- A core of public health facilities is essential
- Public-private dichotomy not always useful
- Building a UHC system takes many years
- Big political challenge!

Growth and Challenges



GENDER

SEX RATIO – 1901 TO 2011

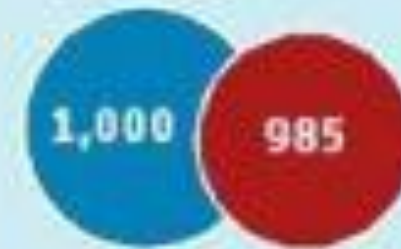


Source: www.nic.in

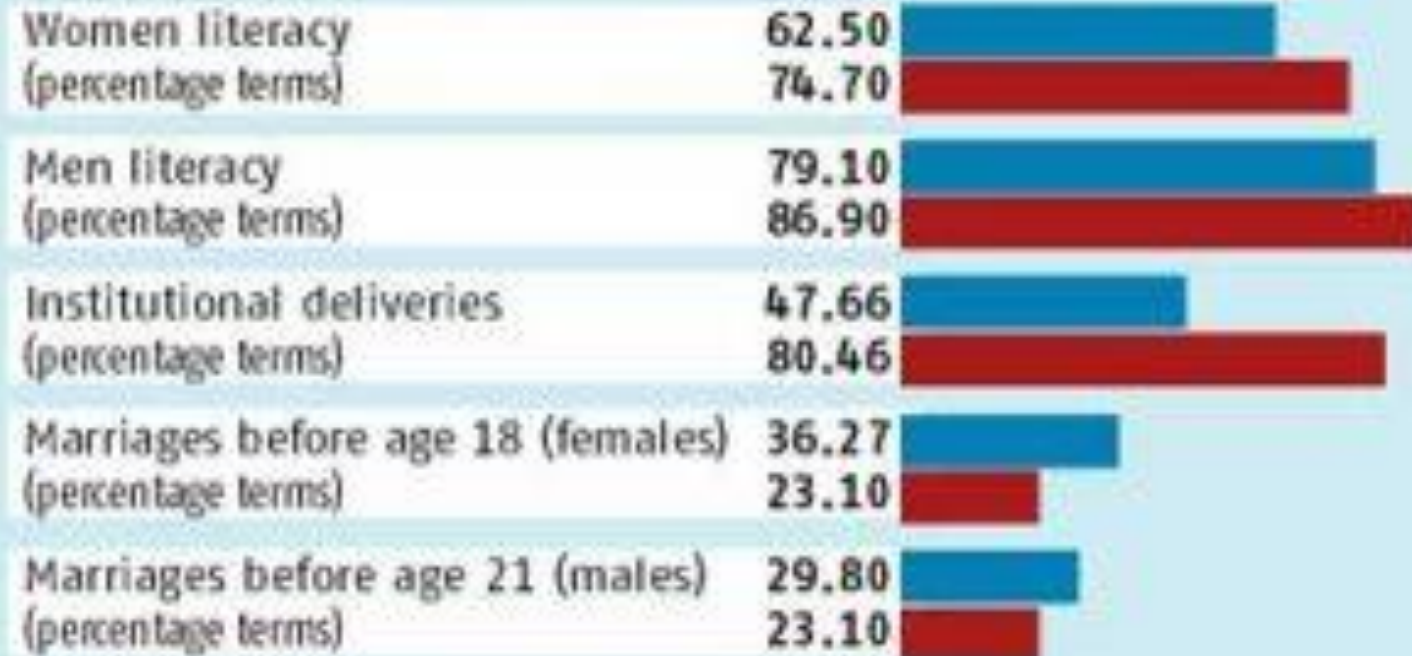
Gender

SOME GOOD AND SOME BAD NEWS

Sex ratio
(Females per thousand males)



■ (NFHS-3) 2005-06 ■ (NFHS-4) 2015-16



The data are for 11 states

Source: National Family Health Survey-4

The good news



Enrolments

College education

Marrying later

Women headed households

Health indicators

Divorce rates?

Work participation rates?

Migration?

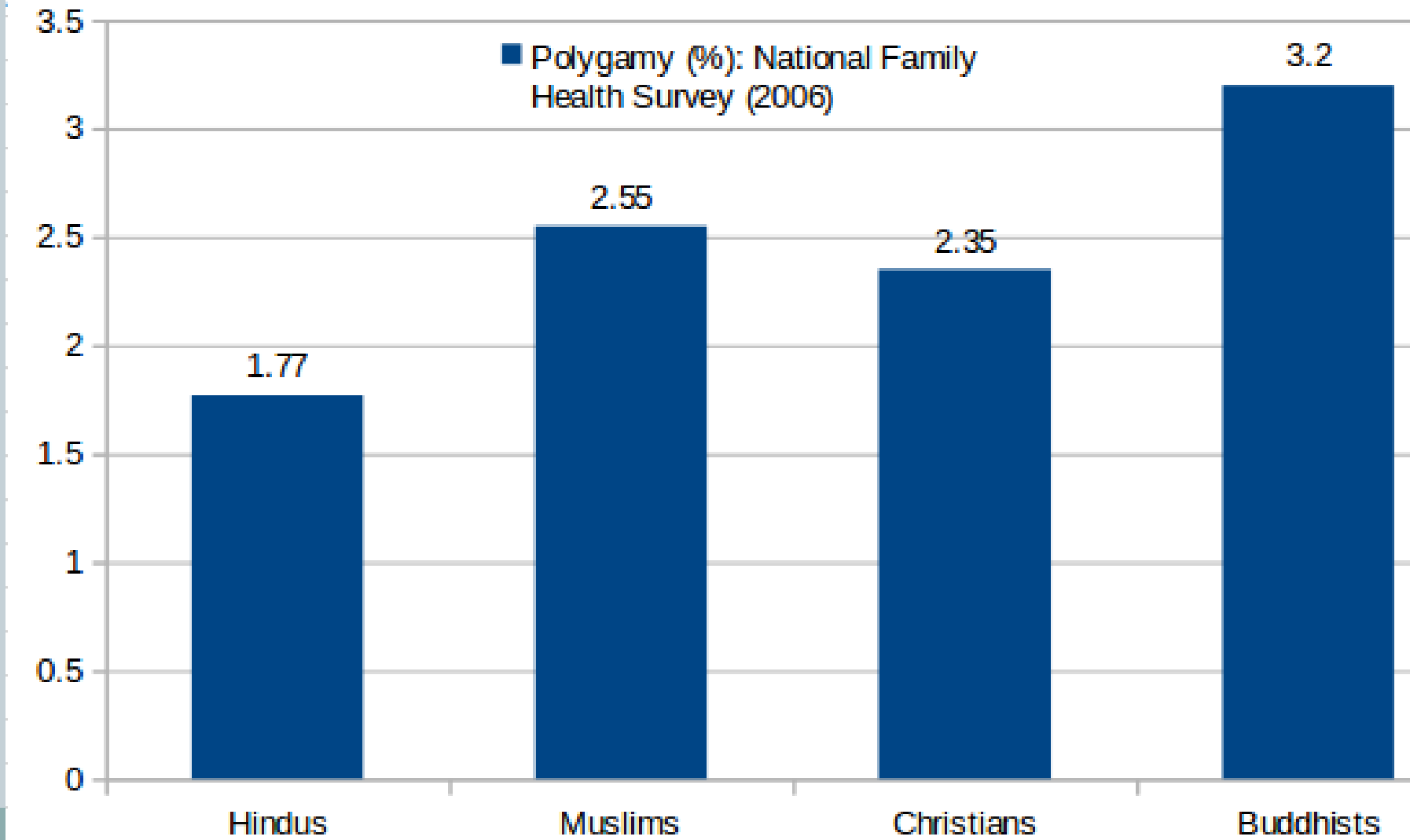
TFR



DIP IN NUMBERS

| Religion | TOTAL FERTILITY RATE | | Decline |
|---------------------------|----------------------|------------------|---------|
| | NFHS-4 (2015-16) | NFHS-3 (2005-06) | |
| Hindu | 2.13 | 2.59 | 0.46 |
| Muslim | 2.61 | 3.40 | 0.79 |
| Christian | 1.99 | 2.34 | 0.35 |
| Sikh | 1.58 | 1.95 | 0.37 |
| Buddhist/ Neo-Buddhist | 1.74 | 2.25 | 0.51 |
| Jain | 1.20 | 1.54 | 0.34 |
| Other | 2.57 | 3.98 | 1.41 |

Polygamy



Sex ratio - the no. of females per 1000 males.

Violence against the girl child since birth major reason

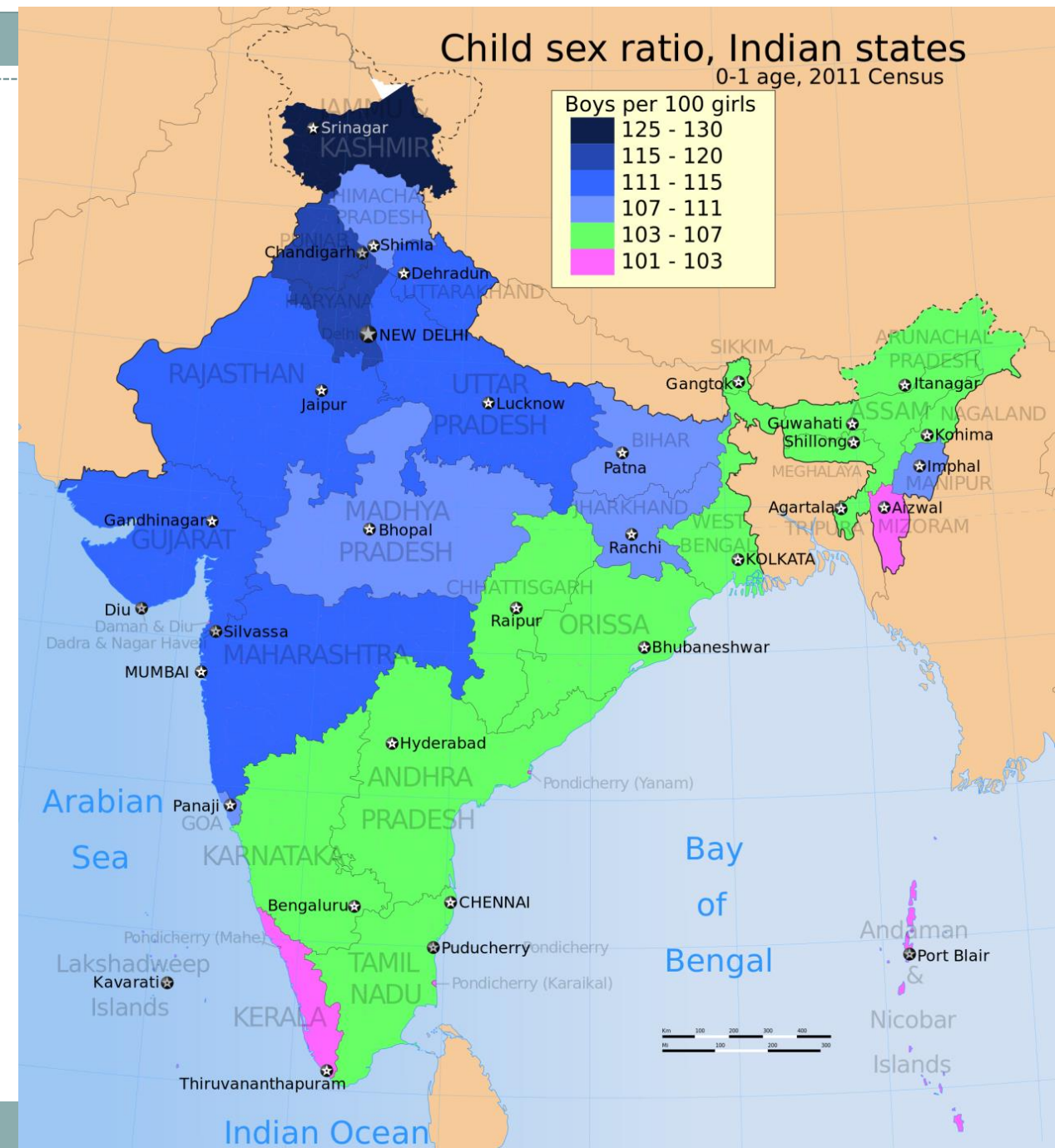
Sex Ratio in India normal during the fifties. Thereafter gradual and worrying signs of decrease

Haryana – with 877 females to every 1000 males has the lowest sex ratio in India

Puducherry and Kerala where the number is more than the number of men

Kerala - 1084 females to that of 1000 males.

Source: Census, 2011



CHILD MARRIAGE

TEENAGE BRIDES

Proportion of 19-year-old married girls (%)*

India

41.3

HIGHEST

Bihar

59.9

West Bengal

55.8

Rajasthan

55.0

Jharkhand

54.2

Tripura

49.6

LOWEST

Nagaland

15.9

J&K

17.3

Goa, Manipur

19.1

Includes those widowed, separated or divorced

