Determinants of HIV

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Outline

- Motivation
- Research Question
- Methodology
- Literature Review
- Descriptive Statistics
- Findings
- Conclusion and Limitations

Motivation and Research Question

1. Understand why some countries failed to achieve MDG 6A

   - *MDG 6: Combat HIV/AIDS, malaria and other diseases*
   - *Target 6A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS*

Source: `http://www.mdgmonitor.org/goal6.cfm`

2. Explore disease-specific determinants of health

Research Question: Are community level factors significant determinants of HIV/AIDS incidence rates?

Methodology and Dataset

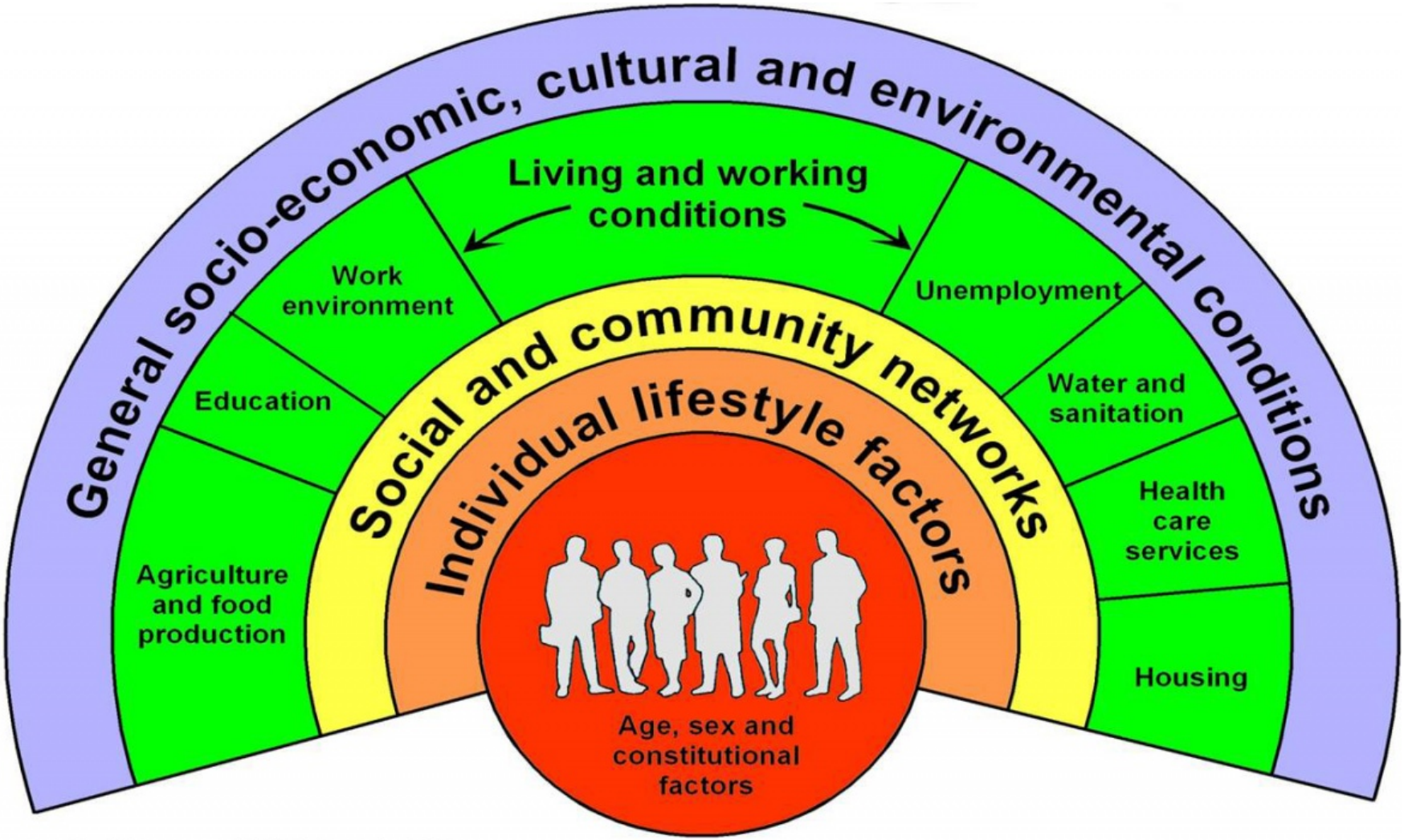
Methodology

- We will. . .

Datasets

- We will use the World Development Indicators (WDI) for the independent variables and a dataset from UNAIDS for the HIV/AIDS prevalence rate.

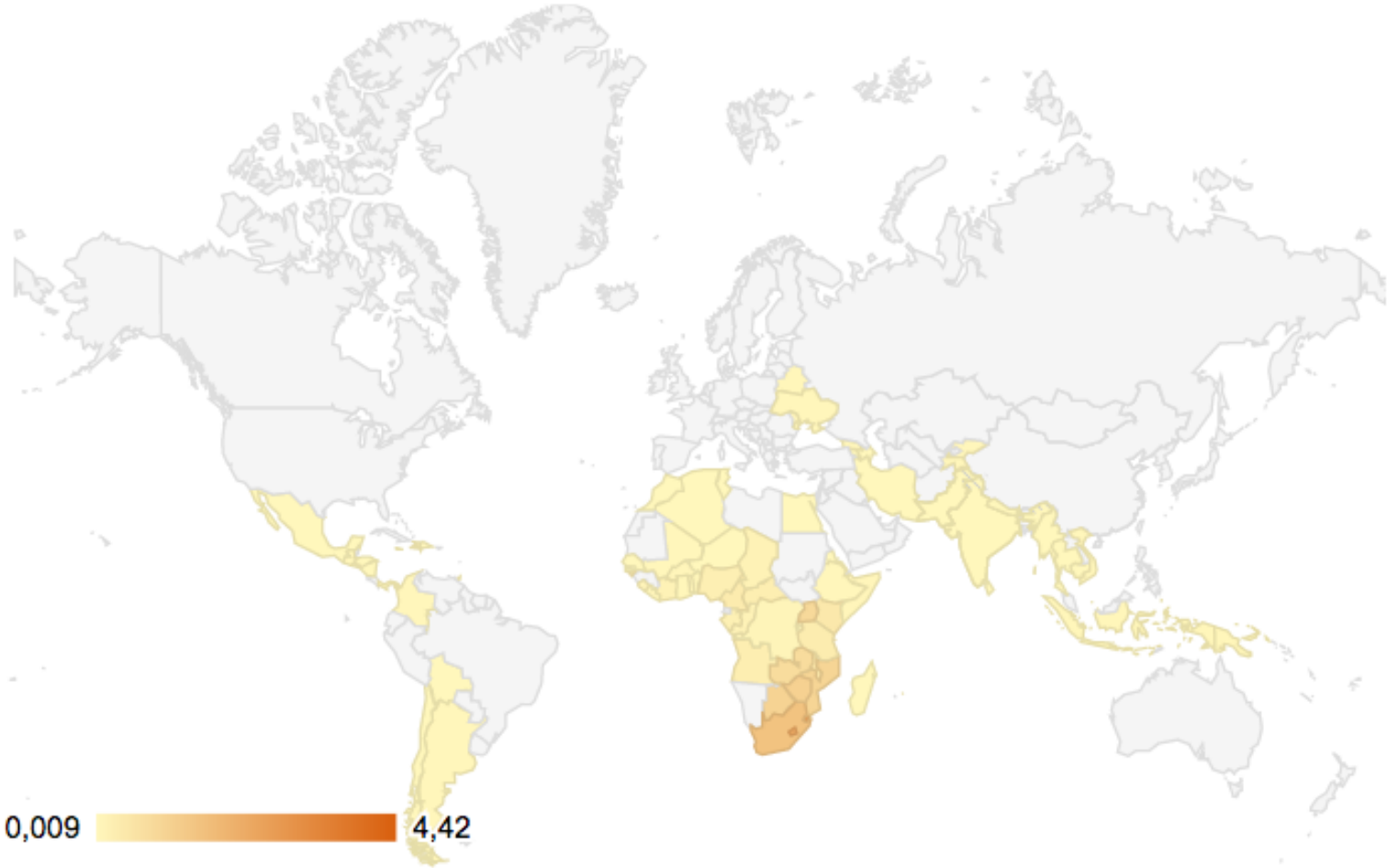
Literature Review



Source: Dahlgren and Whitehead, 1991

Descriptive Statistics

Incidence



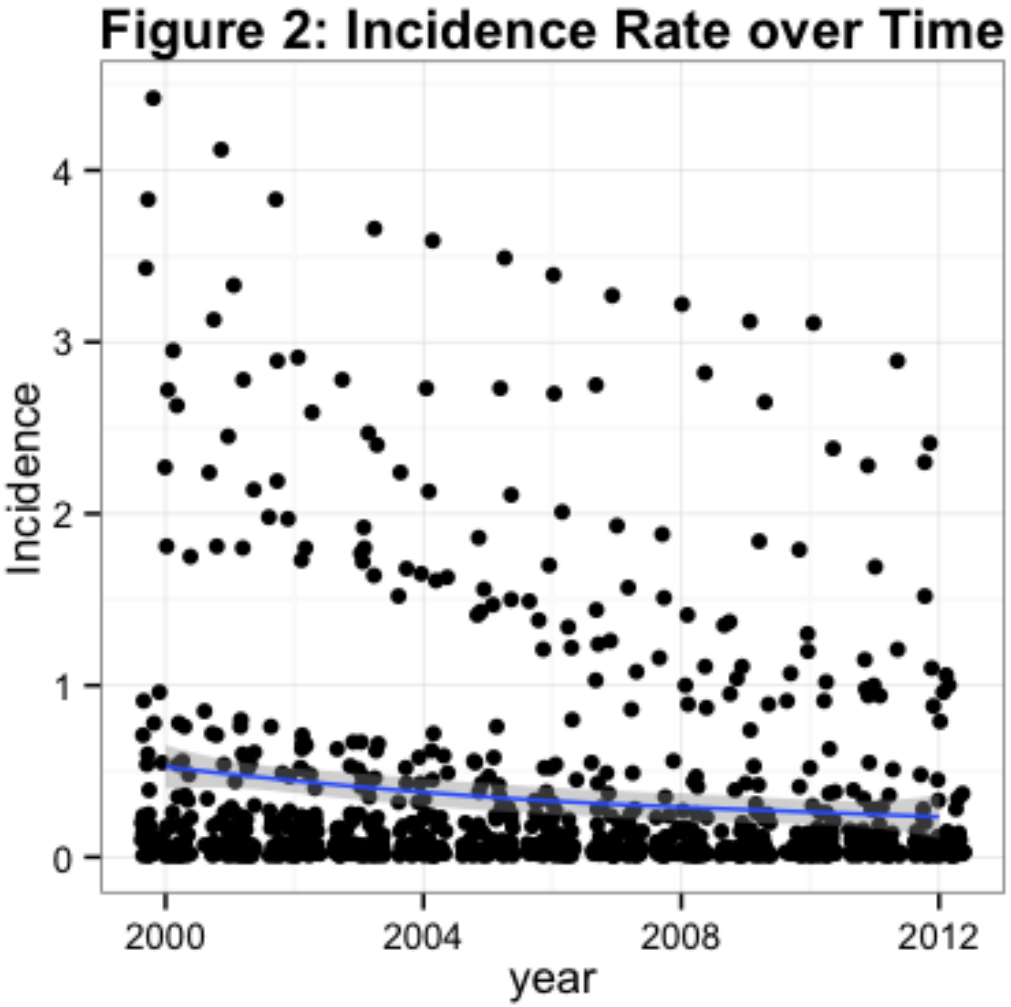
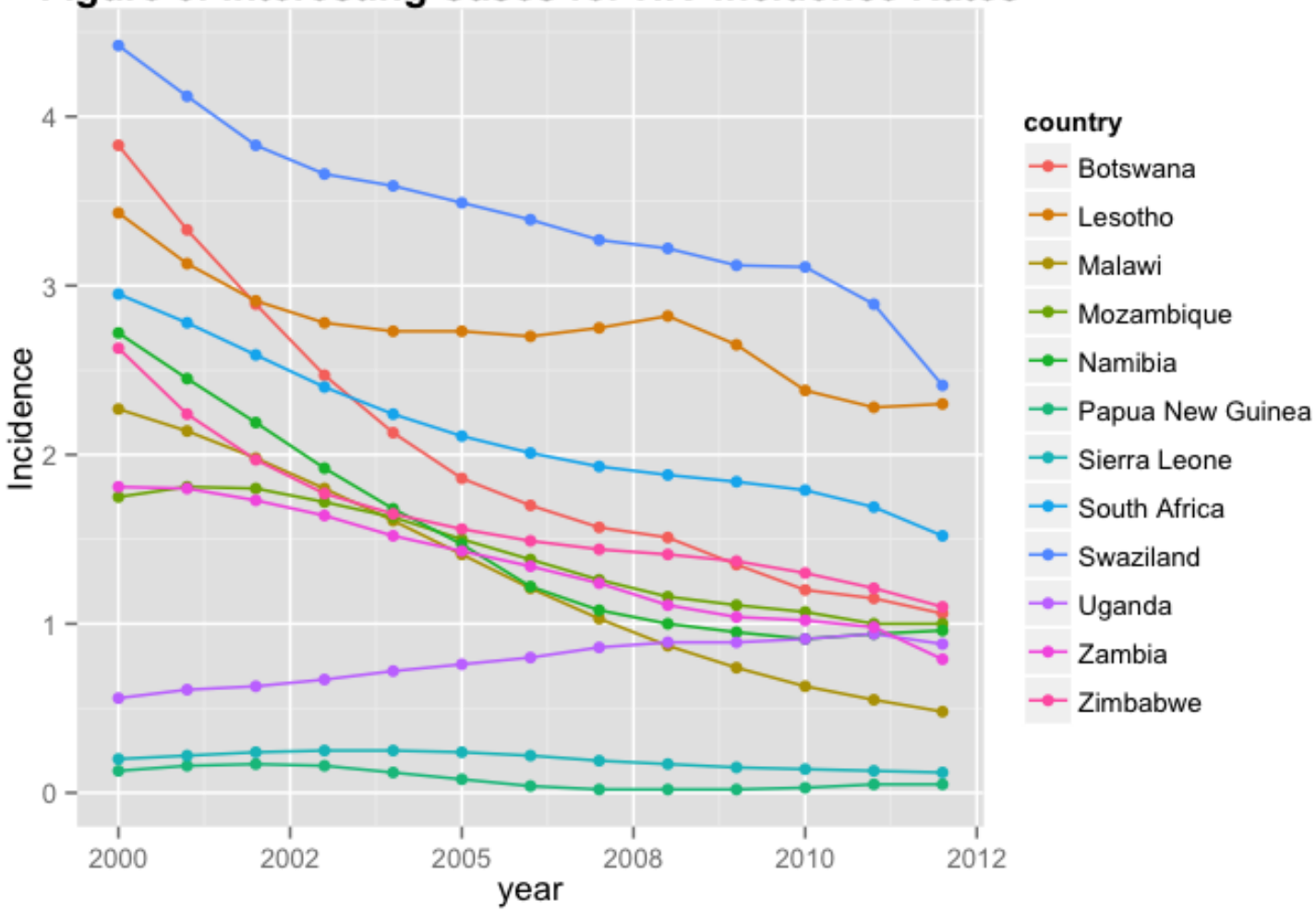


Figure 2: Incidence Rate over Time
Incidence
0
1
2
3
4
2000
2004
2008
2012
year

Figure 6: Interesting Cases for HIV Incidence Rates



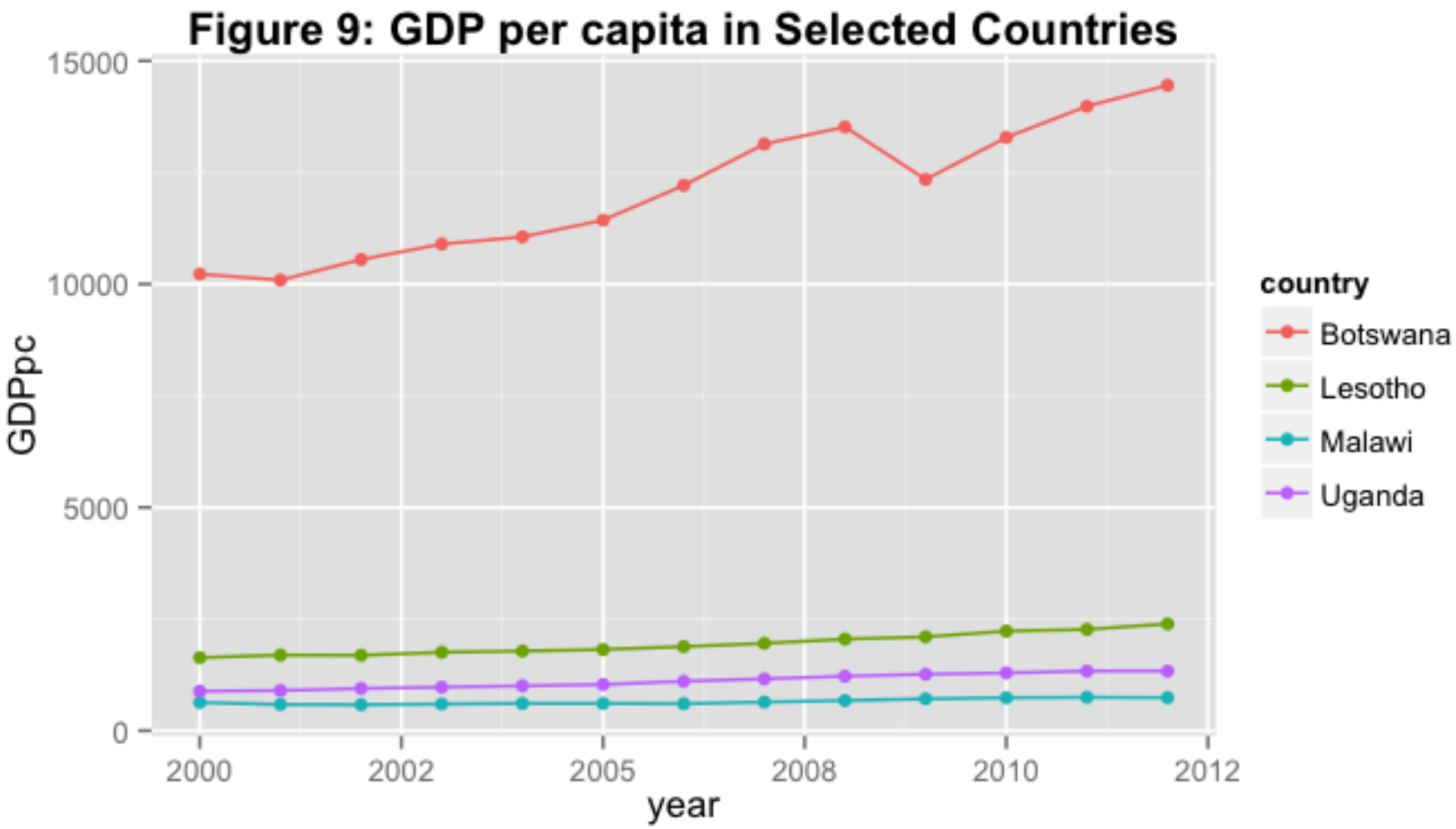


Figure 9: GDP per capita in Selected Countries
15000
10000
5000
0
GDPpc
2000
2002
2005
2008
2010
2012
year
country
Botswana
Lesotho
Malawi
Uganda

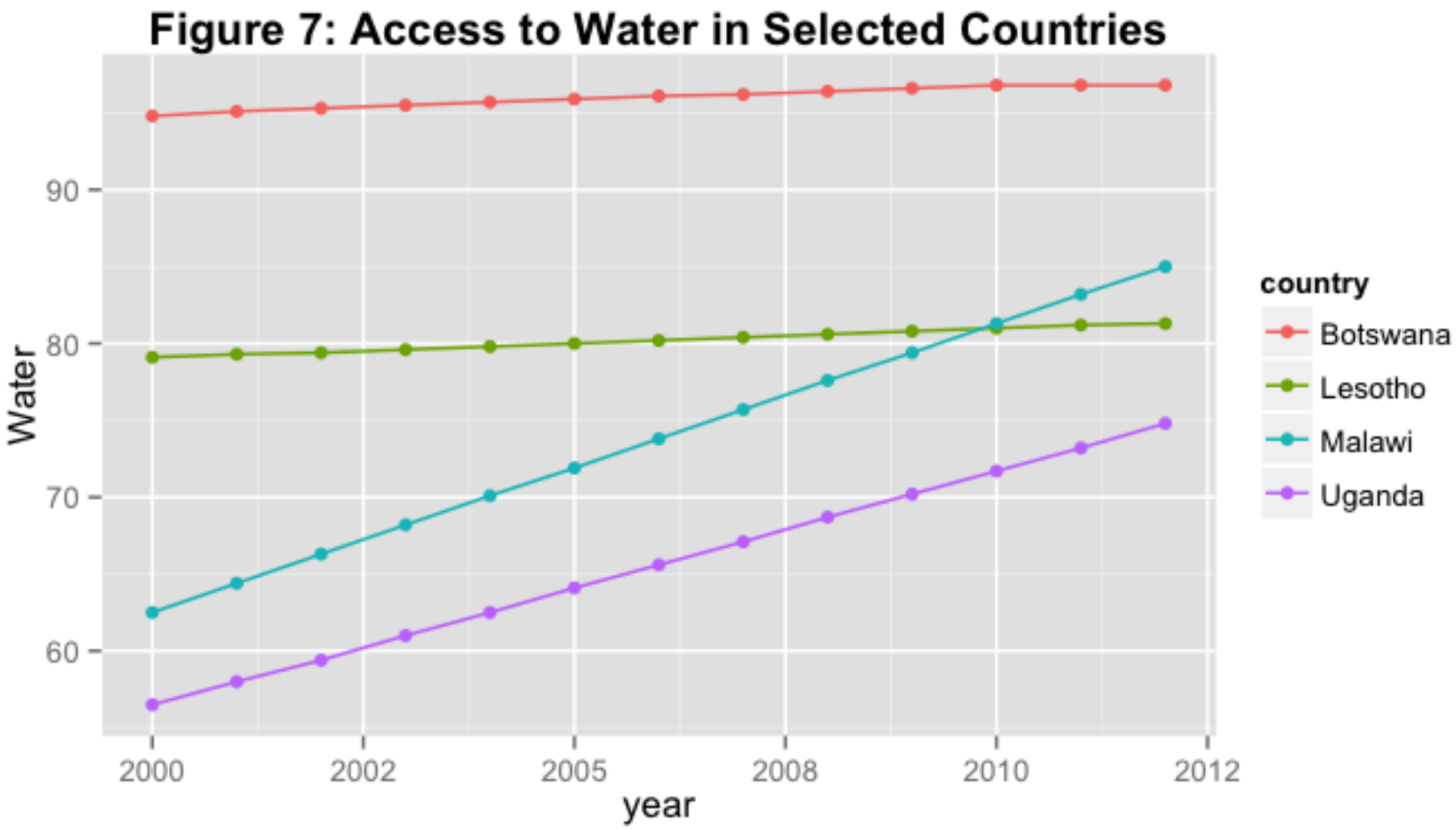


Figure 7: Access to Water in Selected Countries
Water
90
80
70
60
2000
2002
2005
2008
2010
2012
year
country
Botswana
Lesotho
Malawi
Uganda

Figure 12: Health Care Expenditure (%GDP) in Selected Countries

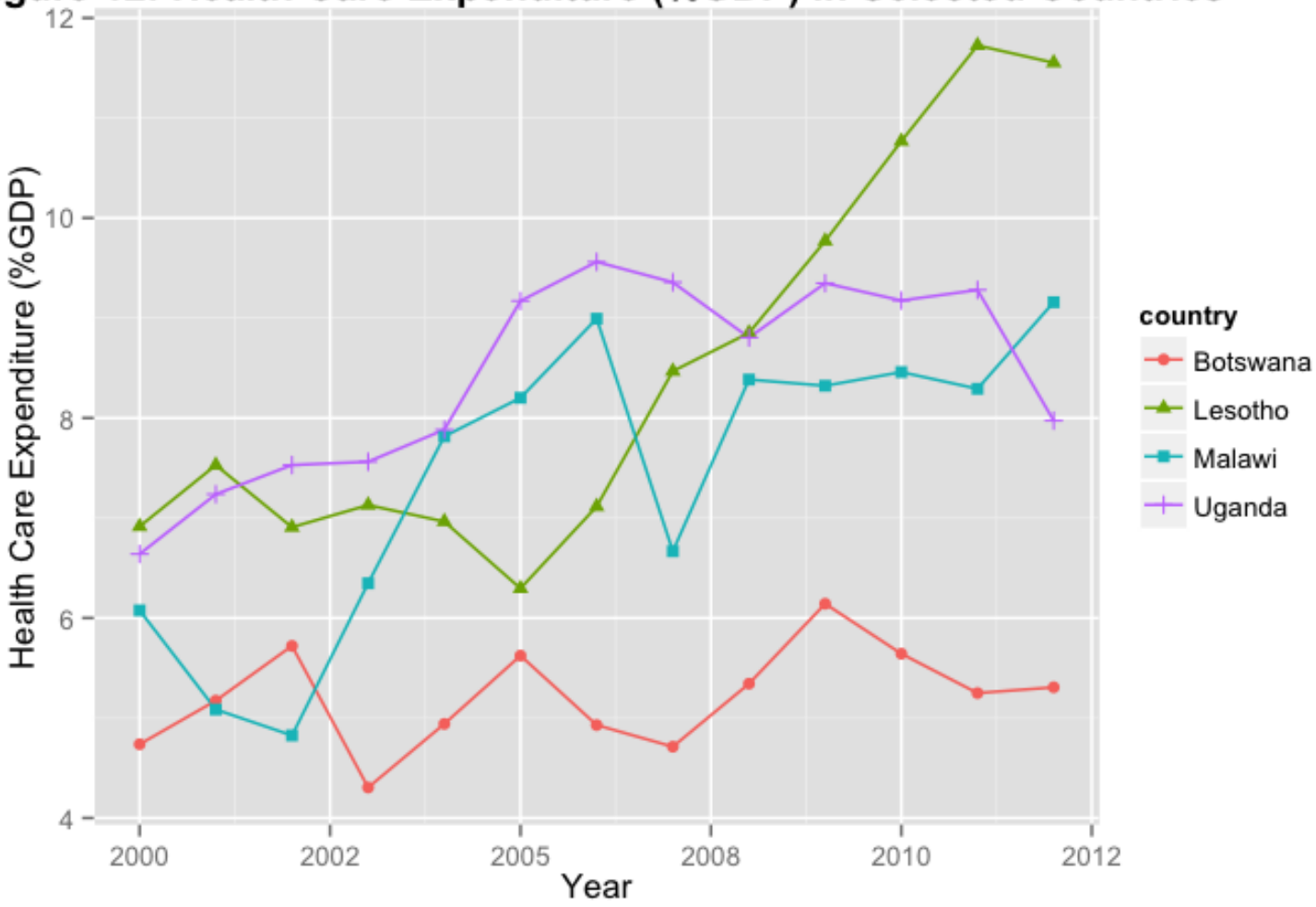


Figure 10: Level of Female Schooling in Selected Countries

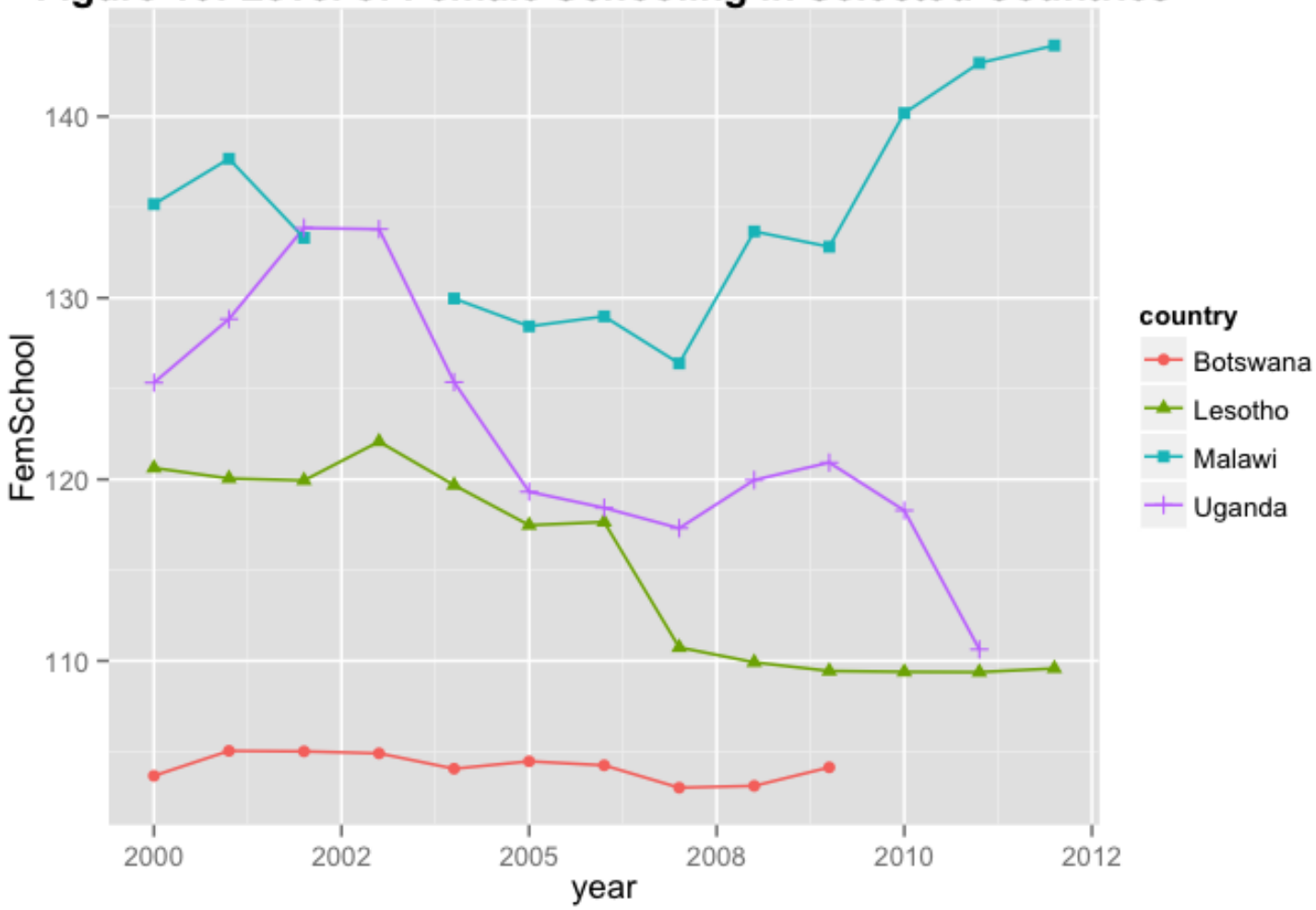
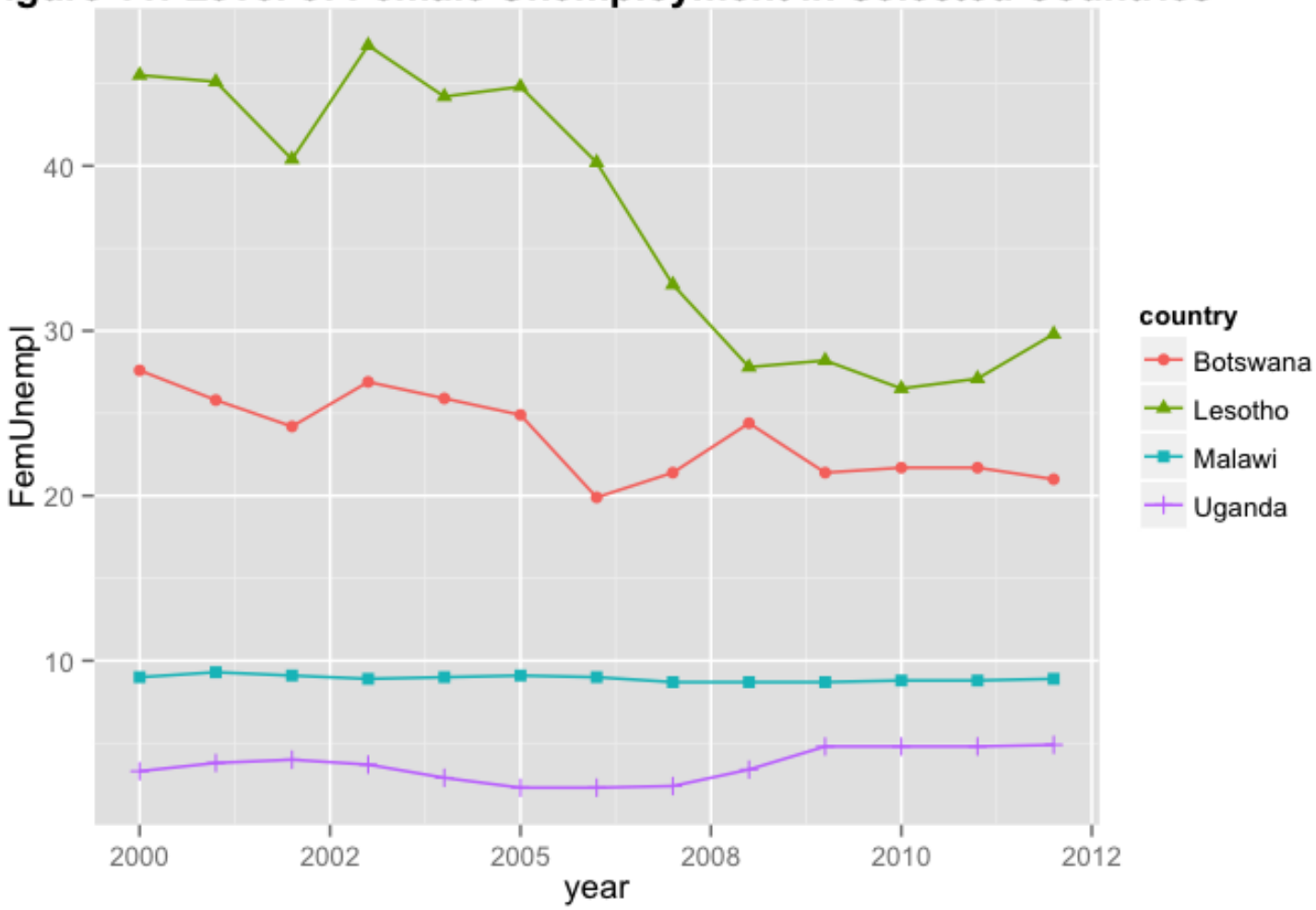


Figure 11: Level of Female Unemployment in Selected Countries



The Model

To answer our research question we will estimate the following equation:

$$I_{it} = \beta_0 + \beta_1 SE_{it} + \beta_2 WLC_{it} + \beta_3 SCN_{it} + \beta_4 ILF_{it} + \epsilon_{it}$$

Where I stands for HIV/AIDS incidence, SE stands for socioeconomic factors, WLC stands for working and living conditions, SCN stands for social and community networks and ILF stands for individual lifestyle factors.

Findings

```
##
## Attaching package: 'dplyr'
##
## The following object is masked from 'package:stats':
##
##     filter
##
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
##
## ------------------------------------------------------------------
## You have loaded plyr after dplyr - this is likely to cause
## If you need functions from both plyr and dplyr, please load
## library(plyr); library(dplyr)
## ------------------------------------------------------------------
```

Imputed missing values

Conclusions and Limitation