Outline

• Measurement and trends
• Some world experience
• Methodological considerations
• IMF RA-GAP program
MEASUREMENT AND TRENDS
Measuring noncompliance...

Some approaches and issues...

• Widely cited (MIMIC) estimates are nonsense to be used with caution

• Informative traces can be found
  – E.g. change in consumption/income

• ‘Informality’ is too loose
  – lumps together very different forms of noncompliance
‘Compliance gaps’ are the way to go

Calculated by an increasing number of Revenue Authorities (RAs)...
‘Compliance gaps’ are the way to go

Hard work and need to be interpreted and used carefully...

- Do not necessarily indicate recoverable revenue, but it is a good guide; and trend over time matters.
- Alone, do not indicate remedial action needed; but can guide them.
- Various ways to calculate (discussed later).
- IMF actively promoted this analysis, and support it through its RA-GAP program (discussed later).
SOME WORLD EXPERIENCE
The VAT Gap in the EU—Global estimate

EC TAXUD is promoting regular estimates...
The VAT Gap in the EU—Global estimate

Following trends per country—2009-2013...
The VAT Gap in LAC—Global estimate

Following trends per country—2003-2012...

Evolución de las tasas de evasión en el IVA en países de América Latina

The Tax Gap in UK—Global

Periodic estimates as public Official Statistics...
The Tax Gap in UK—Decomposed...

Estimates by segments, tax type, and behavior...

<table>
<thead>
<tr>
<th>Customer Group</th>
<th>Type of Tax</th>
<th>Behaviour</th>
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</thead>
<tbody>
<tr>
<td>SMES</td>
<td>IT, NIC, and CGT</td>
<td>Criminal attacks</td>
</tr>
<tr>
<td></td>
<td>£16.5bn</td>
<td>£5.1bn</td>
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<tr>
<td>Large businesses</td>
<td>Value Added Tax</td>
<td>Bribery</td>
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<tr>
<td></td>
<td>£9.5bn</td>
<td>£4.4bn</td>
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<tr>
<td>Criminals</td>
<td>Corporation Tax</td>
<td>Hidden economy</td>
</tr>
<tr>
<td></td>
<td>£5.1bn</td>
<td>£6.2bn</td>
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<tr>
<td>Individuals</td>
<td>Excise duties</td>
<td>Avoidance</td>
</tr>
<tr>
<td></td>
<td>£2.9bn</td>
<td>£2.7bn</td>
</tr>
<tr>
<td>Other taxes</td>
<td>Other taxes</td>
<td>Legal interpretation</td>
</tr>
<tr>
<td></td>
<td>£1.1bn</td>
<td>£4.9bn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-payment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>£4.1bn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Failure to take reasonable care</td>
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<tr>
<td></td>
<td></td>
<td>£3.9bn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Error</td>
</tr>
<tr>
<td></td>
<td></td>
<td>£2.6bn</td>
</tr>
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</table>

Figure 1.2: Tax gaps relative to tax due, 2013-14
The Tax Gap in the USA—Decomposed

Estimates by tax type...

**Tax Gap “Map”**
Tax Year 2006 ($ billions)

- **Total Tax Liability**: $2,660
- **Tax Paid Voluntarily & Timely**: $2,210
- **Gross Tax Gap**: $450 (Voluntary Compliance Rate = 83.1%)
- **Enforced & Other Late Payments of Tax**: $85
- **Net Tax Gap**: $385 (Tax Never Collected) (Net Compliance Rate = 85.5%)

### Nonfiling
- **Individual Income Tax**: $25
- **Corporation Income Tax**: $67
- **Employment Tax**: $122
- **Estate Tax**: $117
- **Excise Tax**: $18

### Underreporting
- **Individual Income Tax**: $236
- **Corporation Income Tax**: $67
- **Employment Tax**: $72
- **Estate Tax**: $2

### Underpayment
- **Individual Income Tax**: $36
- **Corporation Income Tax**: $4
- **Employment Tax**: $4
- **Estate Tax**: $2
- **Excise Tax**: $0.1

**Categories of Estimates**
- Actual Amounts
- Updated Estimates
- No Estimates Available

Internal Revenue Service, December 2011
The Tax Gap in the USA—Decomposed

Estimates by taxpayer segments...

1. Amounts subject to substantial information reporting and withholding (Wages & Salaries)
   - Underreporting Gap: $11B
   - Net Misreporting Percentage: 1%

2. Amounts subject to substantial information reporting.
   (Pensions & annuities, unemployment compensation, dividend income, interest income, Social Security benefits)
   - Underreporting Gap: $12B
   - Net Misreporting Percentage: 8%

3. Amounts subject to some information reporting.
   (Deductions, exemptions, partnerships/S-Corp income, capital gains, alimony income)
   - Underreporting Gap: $64B
   - Net Misreporting Percentage: 11%

4. Amounts subject to little or no information reporting.
   (Nonfarm proprietor income, other income, rents and royalties, farm income, Form 4797 income, adjustments)
   - Underreporting Gap: $120B
   - Net Misreporting Percentage: 56%
The Tax Gap in Australia—Decomposed

Estimates by tax type...

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Goods and services tax</td>
<td>Medium</td>
<td>6.9</td>
<td>3.0</td>
<td>5.5</td>
<td>6.2</td>
<td>5.6</td>
<td>4.9</td>
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<tr>
<td>Petrol and diesel excise and duty</td>
<td>Medium</td>
<td>na</td>
<td>na</td>
<td>0.8</td>
<td>0.0</td>
<td>1.9</td>
<td>1.6</td>
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<tr>
<td>Wine equalisation tax (b)</td>
<td>Medium</td>
<td>na</td>
<td>na</td>
<td>2.3</td>
<td>4.3</td>
<td>3.3</td>
<td>(c)</td>
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<tr>
<td>Beer excise and duty</td>
<td>Low</td>
<td>0.2</td>
<td>0.5</td>
<td>1.0</td>
<td>1.0</td>
<td>0.0</td>
<td>(c)</td>
</tr>
<tr>
<td>Luxury car tax</td>
<td>Medium</td>
<td>na</td>
<td>4.1</td>
<td>4.3</td>
<td>4.1</td>
<td>4.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Withholding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pay as you go withholding</td>
<td>Medium</td>
<td>2.0</td>
<td>2.1</td>
<td>2.2</td>
<td>2.1</td>
<td>(c)</td>
<td>(c)</td>
</tr>
<tr>
<td>Administered expense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel tax credits</td>
<td>Medium</td>
<td>na</td>
<td>na</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>

(a) The estimates are exclusive of debt.
(b) This is an estimate of the gap in wine equalisation payable only, not taking into account wine producer rebates.
(c) These will be calculated when revised National Accounts data is released in late October 2015.
METHODOLOGICAL CONSIDERATIONS
Tax Gap Estimation Framework

General considerations...

Stages of Tax Gap Analytical Framework

1. Context
   - Motivation: Revenue analysis indicating unexplained shortfalls against forecasts
   - Tax administration risk assessment, performance monitoring or business intelligence
   - Market intelligence and trade reports
   - Feasibility
     - Detailed taxpayer returns and payments data
     - Detailed, independent data sources to model tax base, i.e., production or consumption
     - Scope and coverage of tax gap study

2. Data capture
   - Legislation
     - Current definition of tax base, rates and coverage of each rate
     - Past changes in legislation, coverage and rates
   - Administration data
     - Detailed taxpayer returns & payments data
     - Administration processes and impacts of, eg process changes, cash effects, one-off events
   - Statistical data
     - Independent data on production or consumption

3. Analysis
   - Data preparation
     - Data formatting and cleaning: anomalies, duplication, missing entries
   - Model specification
     - Matching model parameters to legislative framework and administration processes
     - Matching model parameters to data definitions
   - Analysis
     - Data input and output of results
     - Test results against external data and analysis
     - Sensitivity testing of assumptions and error margins

4. Reporting
   - Presentation of results
     - Levels and trends; decomposition of gap estimates into sectors/taxpayer segments
   - Caveats: data issues and limitations of analysis
   - Interpretation of results
     - Risks and behaviors driving gaps
   - Reconciliation to existing risk/compile analysis and revenue analysis
   - Conclusions and future work
     - Strategic view of risk and treatments
     - Further analysis and monitoring
Tax Gap Estimation Framework

General considerations...

**Design Criteria for an Effective Tax Gap Estimation Framework**

1. Captures the appropriate tax base
2. Covers all potential taxpayers
3. Accounts for all potential forms of non-compliance
4. No overlap between any two components of the framework
Criteria for an Effective Random-Audit Based Gap Estimation Methodology

1. Proper definition of the population
2. Risk-based taxpayer segments for sample selection
3. Proper sample selection
4. Comprehensive audit
5. Projection to the population
6. Projection to other populations
7. Accounting for undetected undeclared liability
Estimation Framework for Direct Taxation

Data-Matching Based Estimate...

Criteria for an Effective Data-Matching Based Gap Estimation Methodology

1. Availability of unique taxpayer identifiers
2. Availability of unique identifiers in third party data.
3. Accounting for unmatched data
4. Comprehensive coverage
5. Proper estimation of the associated tax gap
6. Accounting for undetected undeclared liability.
Top-Down Based Estimate...

**Design Criteria for an Effective Top-Down Gap Estimation Methodology**

1. Independent source of statistics for the tax base
2. Accurate statistical data
3. Consistency in statistical data
4. Sufficiently detailed statistical data
5. Comprehensive statistical data
6. Accurate modeling of the tax structure.
What is the IMF RA-GAP program?

• An evaluation of a RA’s operations to assess their effectiveness in collecting main taxes:
  – Focused on VAT and Excises (indirect main taxes) and CIT and PIT (direct main taxes).
  – Started with VAT and Excise and CIT frameworks under development.
  – Conducted by IMF staff working closely with local teams familiar with operations, tax design and policy, and statistical data.
  – IMF medium-term goal is to help countries build capacity to conduct similar domestic programs.

• This assessment aims to estimate the tax gap.
Defining the Tax Gap

- How *tax gap* is defined influences how it is measured.

*Usual definition*: difference between actual and potential collections, *given the current policy framework*.

*Broader definition*—**IMF approach**: difference between actual and potential collections, *against a ‘normalized’ policy framework*—allows estimating Compliance Gap (CP) and Policy Gap (PG):

- **CG**: difference between potential collections *given the current policy framework* and actual collections.

- **PG**: difference between potential collections *given the current policy framework* and normative policy framework (i.e. single rate, broad base).
Visualizing the Tax Gap under RA-GAP

Diagram showing the relationship between potential tax structure and administrative effectiveness, with shaded areas representing current collections, compliance gap, and policy gap.
Most top-down VAT gap models use final consumption and intermediate consumption for exempt supplies to estimate potential VAT base.

RA-GAP looks at the amount of output which would be taxable per sector and the amount of input tax credits due a sector to determine the potential net VAT per sector.

This approach allows estimates at the sectoral level, and the model treats economic sectors in the same manner as individual taxpayers, which makes it easier to explicitly model the nuances of the policy structure.
RA-GAP for VAT—Beyond estimating overall gap

• Overall tax gap estimates don’t tell how to fix it.
• RA-GAP identifies potential causes and sectoral gaps; so the main contributors to the VAT gap.
• Why? It uses detailed VAT record data, which allows:
  – Breaking the gap across taxpayer segments/sectors
  – Estimating/comparing with other type of operational gaps: filing and registry gaps, payment and refund gaps, reporting and audit gaps.
  – Decomposing the compliance gap into the collections gap and the assessment gap.
Decomposed by type of gaps...

Note: PV1—Potential VAT, with the current policy framework and no compliance gap; PV2—Potential VAT, with practical benchmark policy (no expenditure gap); PV3—Potential VAT, if all final consumption is taxed.
RA-GAP for VAT—illustrative results...

Decomposed by type of gaps...

Note: Assessment gap: Difference between Potential VAT and VAT declared or assessed; Collection gap: Difference between VAT declared or assessed and actual VAT collection.
RA-GAP for VAT—illustrative results...

Identifies the drivers of change in VAT performance...

Change in c-efficiency ratio from 2007 (% point)

- Compliance gap
- Cash effect
- VAT Expenditure gap
- Other effect (non-taxable)

Changes in c-efficiency ratio
RA-GAP for VAT—illustrative results...

Provides a sectoral breakdown of the compliance gap...

![Graph showing sectoral breakdown of VAT gap](image)

- A: Agriculture, forestry and fishing
- B: Mining and quarrying
- C: Manufacturing
- D: Electricity, gas, steam and air conditioning supply
- E: Water supply, sewerage, waste management and remediation activities
- F: Construction
- G: Wholesale and retail trade; repair of motor vehicles and motorcycles
- H: Transportation and storage
- I: Accommodation and food service activities
- J: Information and communication
- K: Financial and insurance activities
- L: Real estate activities
- M: Professional, scientific and technical activities
- N: Administrative and support service activities
- O: Public administration and defence; compulsory social security
- P: Education
- Q: Human health and social work activities
- R: Arts, entertainment and recreation
- S: Other service activities
- U: Unknown

Source: IMF Staff Estimates
RA-GAP—finished and ongoing programs

• Several VAT gap analyses finished or underway

  – *Finished*: Portugal, Estonia, Slovakia, Philippines, Uganda, Denmark, Finland, Greece, Colombia, South Africa, Thailand, Nepal, Lebanon, Rwanda, Jamaica

  – *Underway*: Albania, Cape Verde, Senegal, Ukraine.

• RA-GAP also assesses countries’ tax gap analysis (e.g. UK) and conduct revenue analysis (e.g. Georgia, Albania).
Several VAT gap analyses published

- Uganda: Publication by country authorities (published by Uganda MoF, not yet by the IMF)

Also an assessment of the UK tax gap analysis program

THANKS FOR YOUR ATTENTION