Chief Data Officer & Information Quality Symposium Africa
Pretoria
Dr Daan Steenkamp
2 September 2024

DEMOCRATISING DATA FOR DECISION-READY ANALYTICS
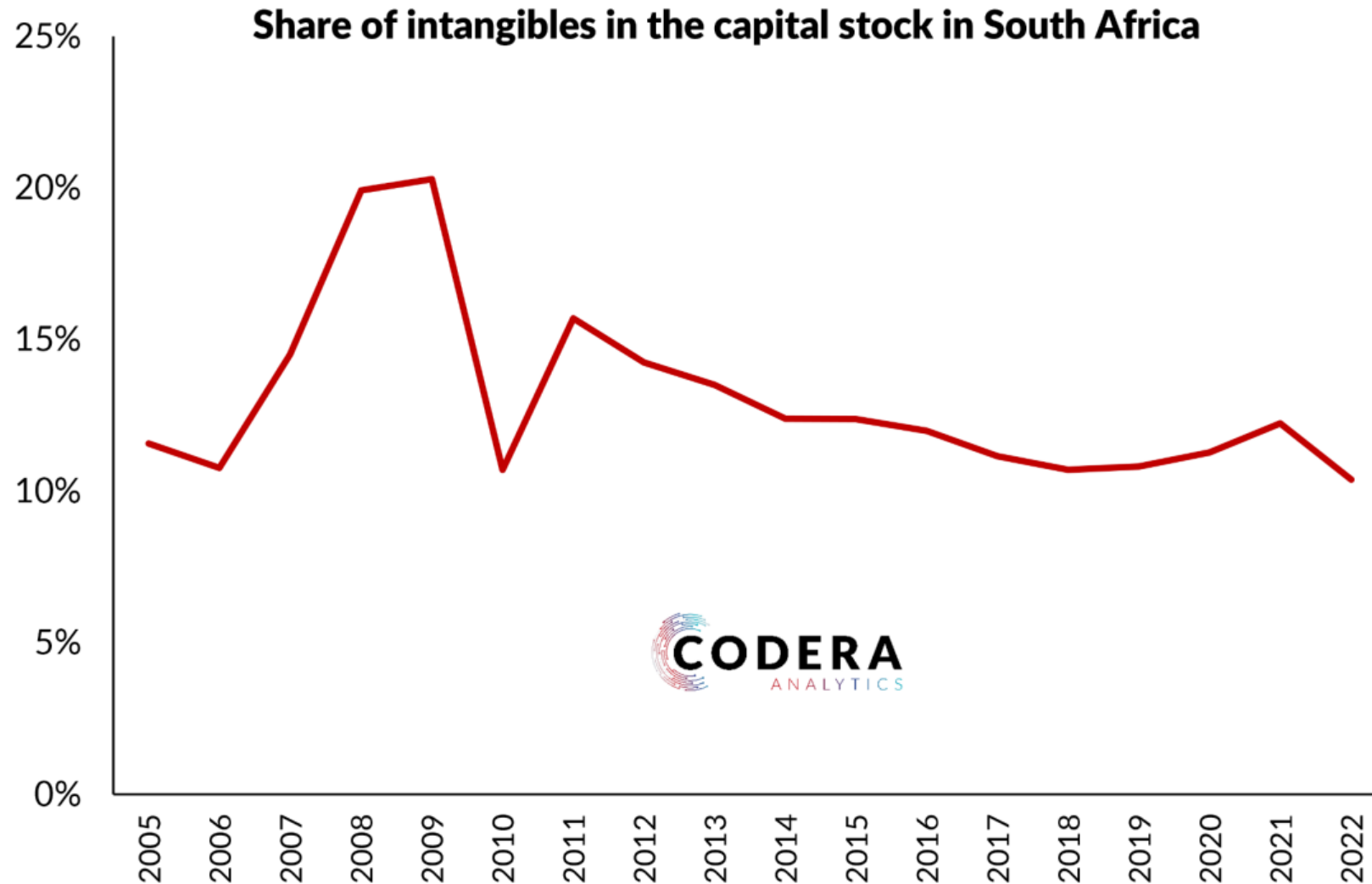
CODERA ANALYTICS

www.codera.co.za

Data Matters

SA is not accumulating IP & data assets

Share of intangibles in the capital stock in South Africa

Source: Statistics South Africa. All industries excluding agriculture, hunting, financial intermediation, insurance, pension funding, other business services not elsewhere classified, general government and educational institutions.

OVERVIEW

- Requirements for decision-ready analytics

- SA's Data Ecosystem

- What do we need to do?

REQUIREMENTS FOR DECISION-READY ANALYTICS

What are we trying to do?

Data Integration

Data Assets

Data APIs

Automate

Data Products

Automated data quality checks

Data Platforms & Marketplaces

Protect privacy & security

What does data-driven analytics require?

Forecasting Data Product Example

Data Strategy	Value Realization	Analytics	Interaction	Monitoring
Data governance baked into databases	Data Taxonomy	Aggregate & disaggregated	Scenario analysis	Usage
Centralisation	Process codification	Visualisation	Answer questions	Accuracy
Automation	Value Chain	Insights	Judgements	Role-based access
Alignment with strategy & policies	Bottom-up implementation	Interoperability	Sharing outputs	Data Quality

Example: Analytical Value Chain

Data Integration
- Public data
- 3rd Party data
- Internal data

Data Management
- Meta-data
- User-level access
- Input data storage
- Scenario storage
- Quality assurance

Data Automation
- Automation of dashboards/models
- Sharing data across organisation

Publication
- Auto-upload reports / dashboards
- Dissemination

Model Refresh
- Data and model update
- Forecasts and analysis
- Diagnostics

Value added tools
- Historical error assessment
- User defined dashboards
- Judgement addition
- Scenario analysis

Example: Automated predictive analytics
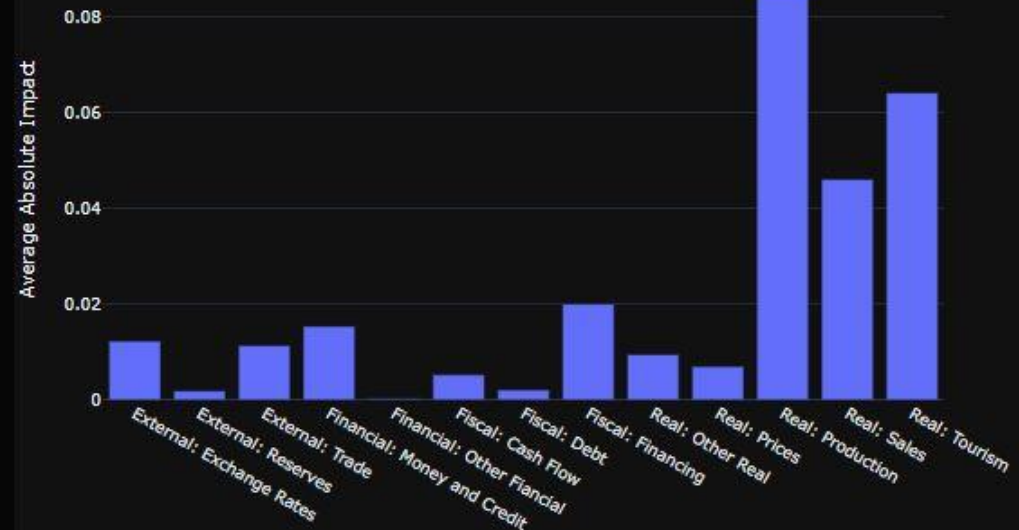
DATA DEMOCRATISATION (PUBLIC & PRIVATE)

FAIR Principles for data governance & sharing

F	**A**	**I**	**R**
Findable	Accessible	Interoperable	Reusable
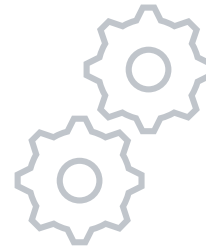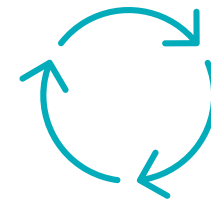
The Data Ecosystem as a city

Roads, Tunnels & Pipelines
- Data pipelines & utilities

Vehicles
- APIs

Buildings & Skyscraper
- Companies with products & services

Trains
- Shared platforms & apps

Residential areas
- Housing customer data

Marketplaces
- Exchange, trade & sell

Community organisations
- Communities of practice
- Stakeholder fora

Government
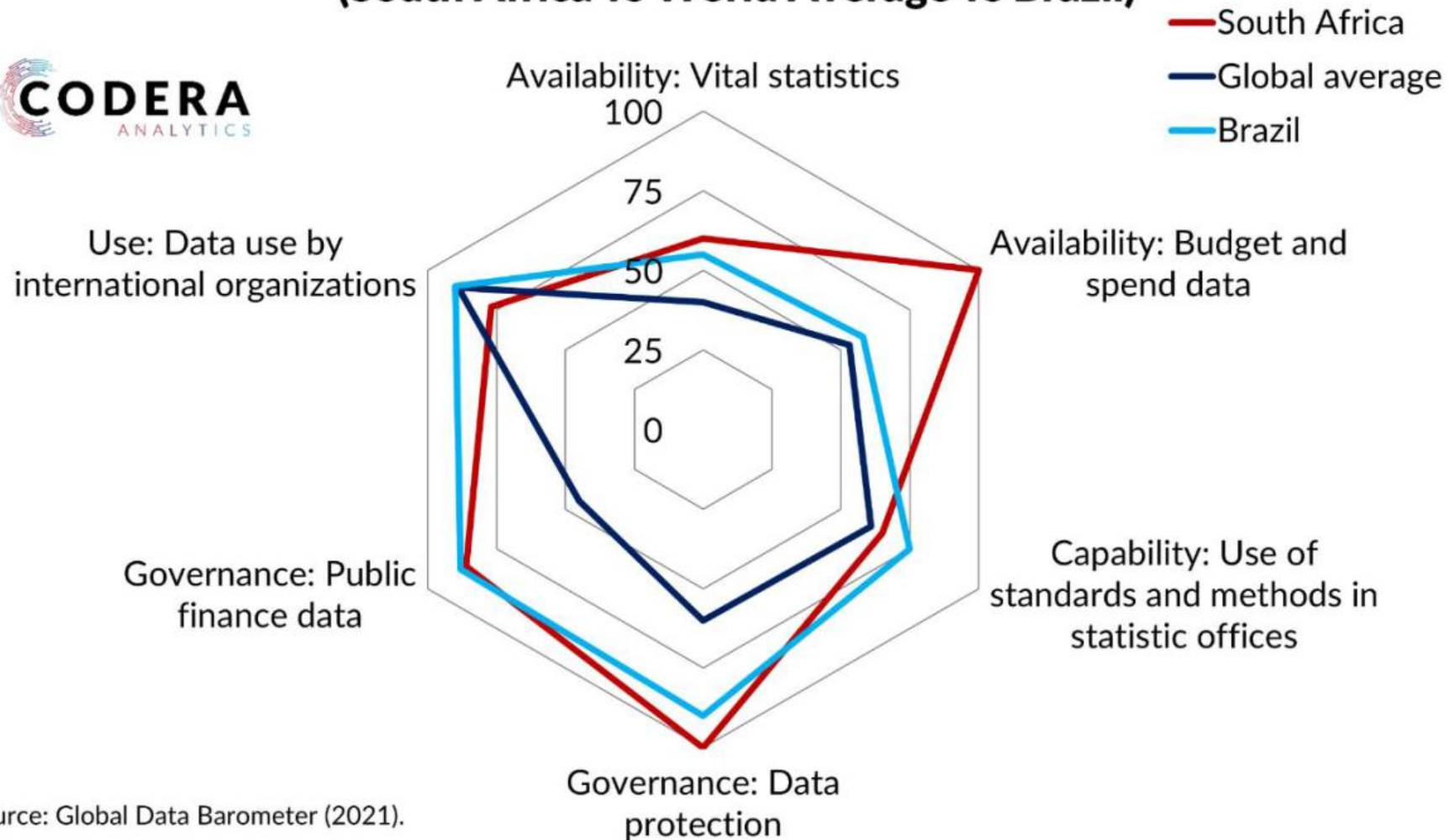- Public services
- Regulations & standards

CODERA
ANALYTICS

DATA ECOSYSTEM

SA'S DATA ECOSYSTEM:
COMPARATIVE STRENGTHS

SA does well on vital statistics & data protection

Global Data Barometer scores for selected economies (South Africa vs World Average vs Brazil)

— South Africa
— Global average
— Brazil

CODERA ANALYTICS

Availability: Vital statistics
Availability: Budget and spend data
Use: Data use by international organizations
Capability: Use of standards and methods in statistic offices
Governance: Public finance data
Governance: Data protection

Source: Global Data Barometer (2021).

We stand out on availability

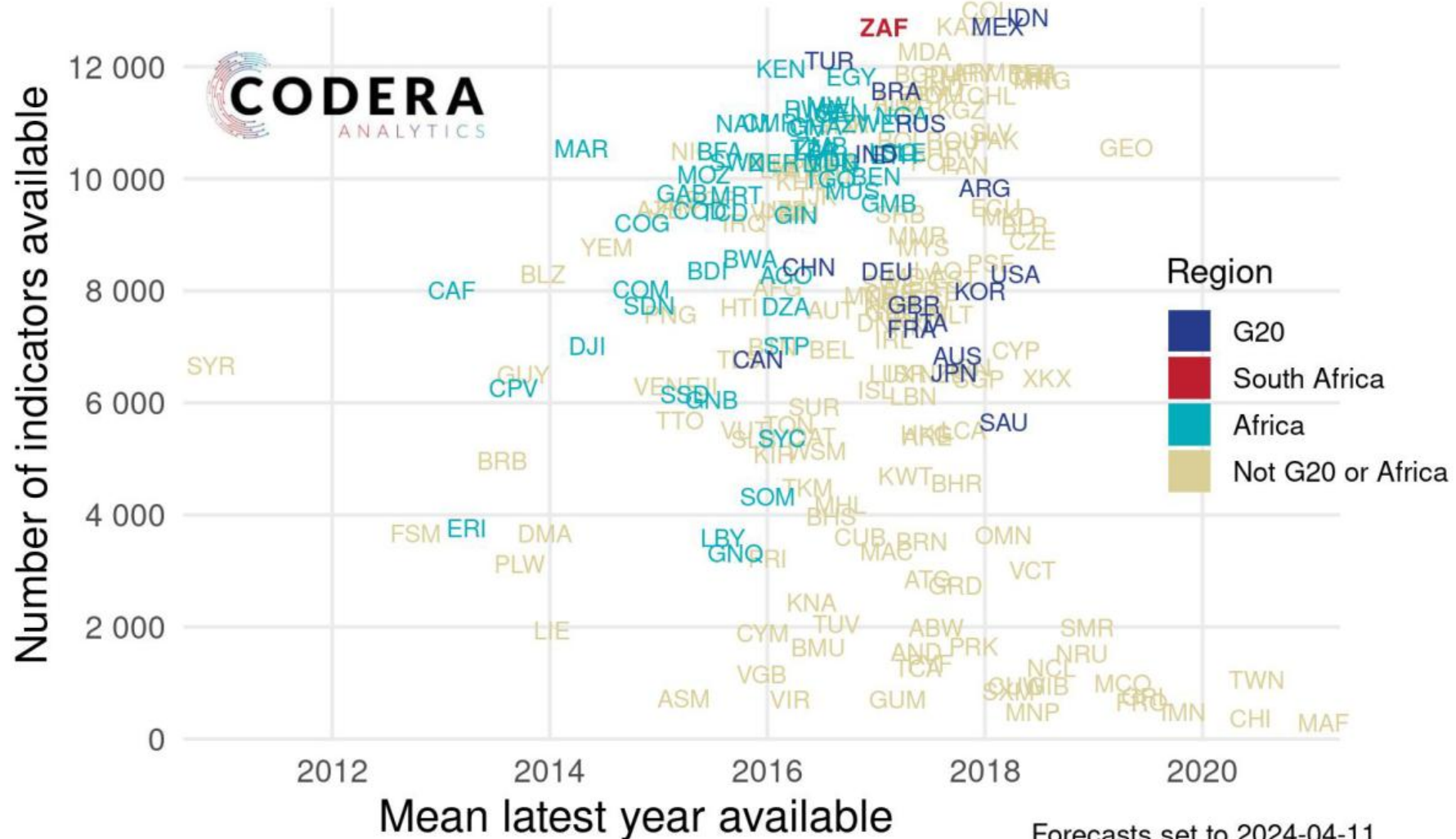Number of indicators available from the World Bank

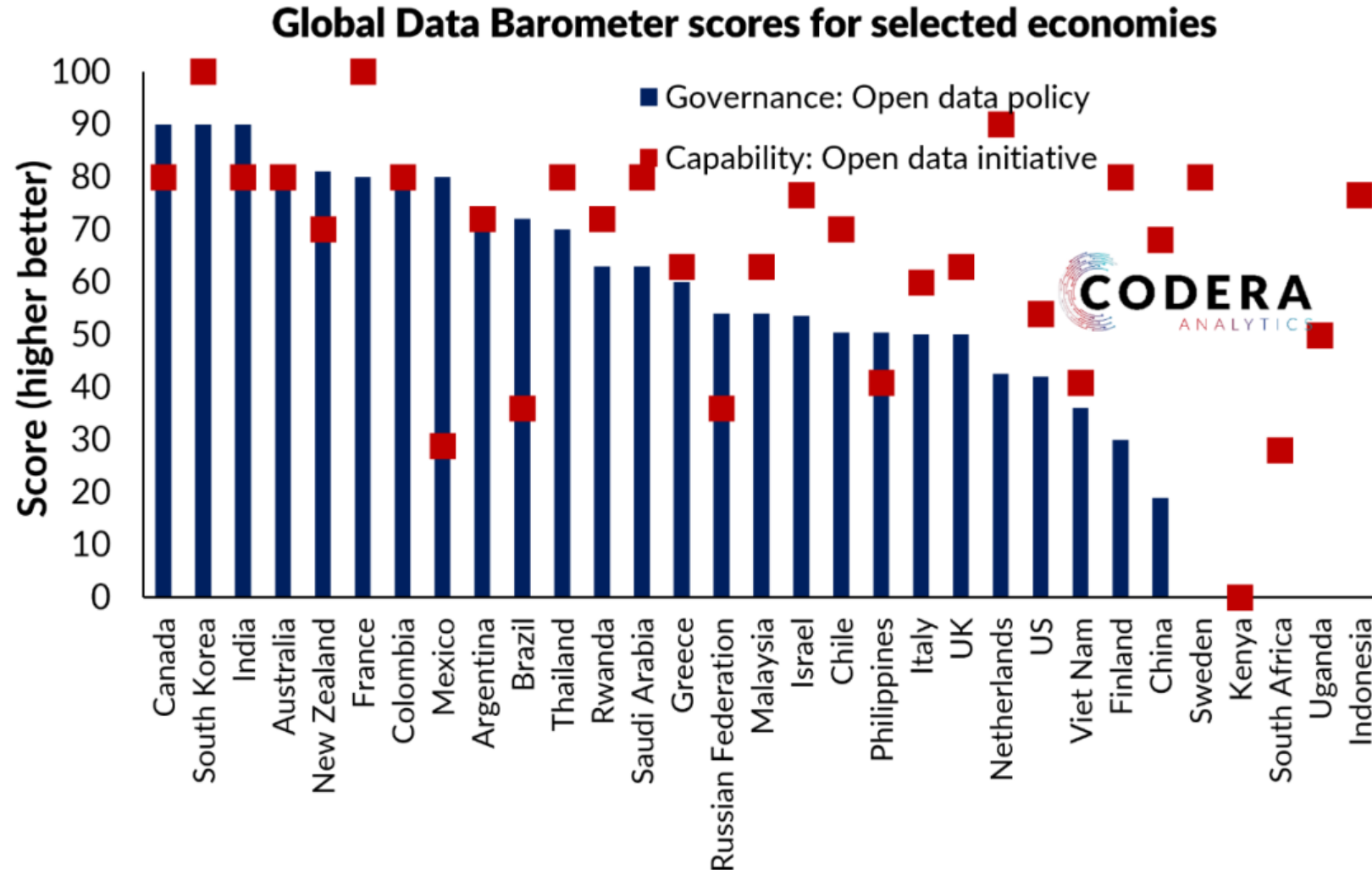City data merged into the country level

SA'S DATA ECOSYSTEM: COMPARATIVE WEAKNESSES

Though less up-to-date

Average latest year available for World Bank indicators, across countries

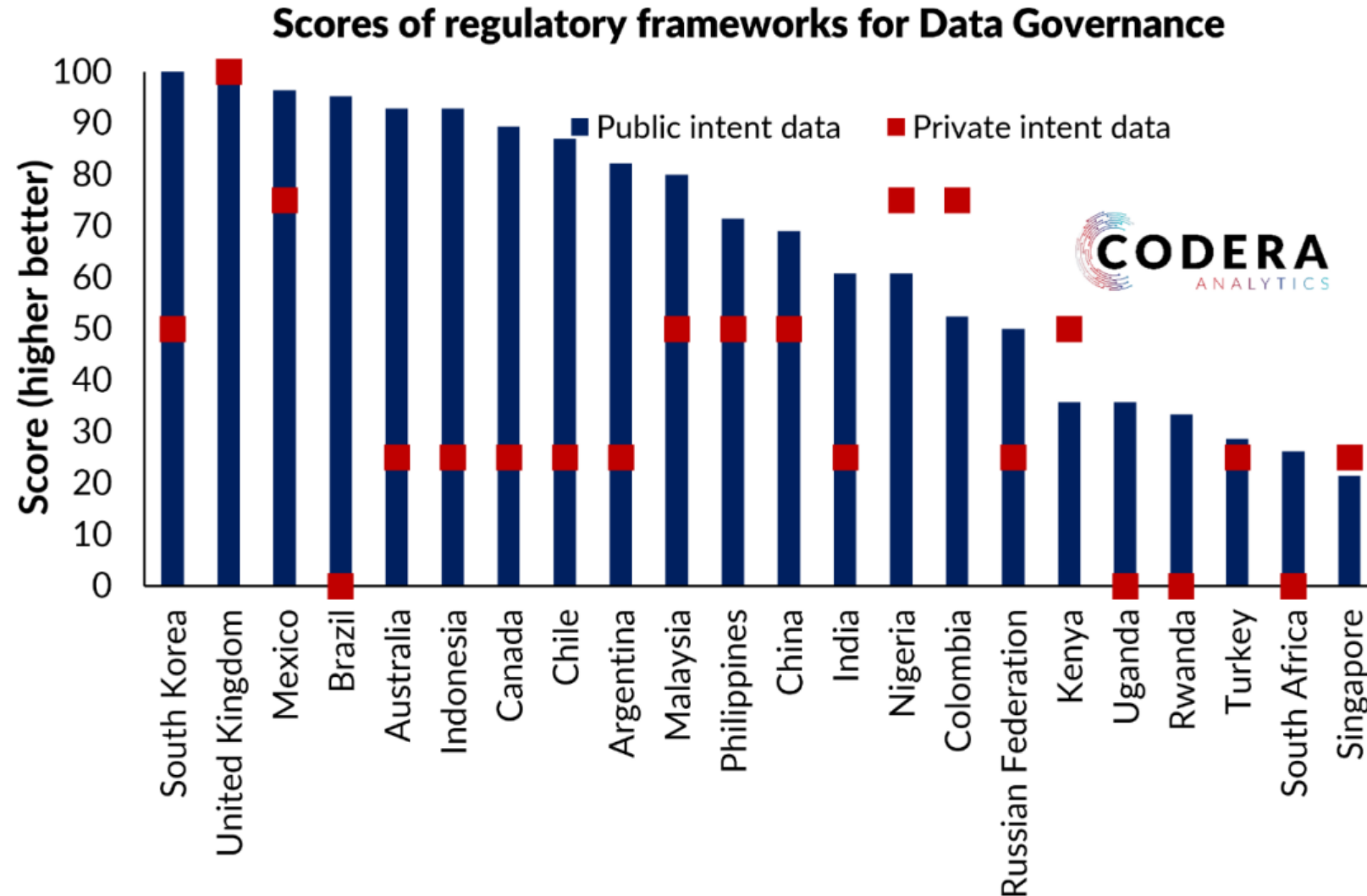City data merged into the country level

Weak on open data

Global Data Barometer scores for selected economies

Legend:
- Governance: Open data policy
- Capability: Open data initiative

Y-axis: Score (higher better) — 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

X-axis (economies): Canada, South Korea, India, Australia, New Zealand, France, Colombia, Mexico, Argentina, Brazil, Thailand, Rwanda, Saudi Arabia, Greece, Russian Federation, Malaysia, Israel, Chile, Philippines, Italy, UK, Netherlands, US, Viet Nam, Finland, China, Sweden, Kenya, South Africa, Uganda, Indonesia

CODERA
ANALYTICS

Source: Global Data Barometer (2021).

WHY IS SA FALLING BEHIND?

CODERA
ANALYTICS

Especially on regulatory frameworks
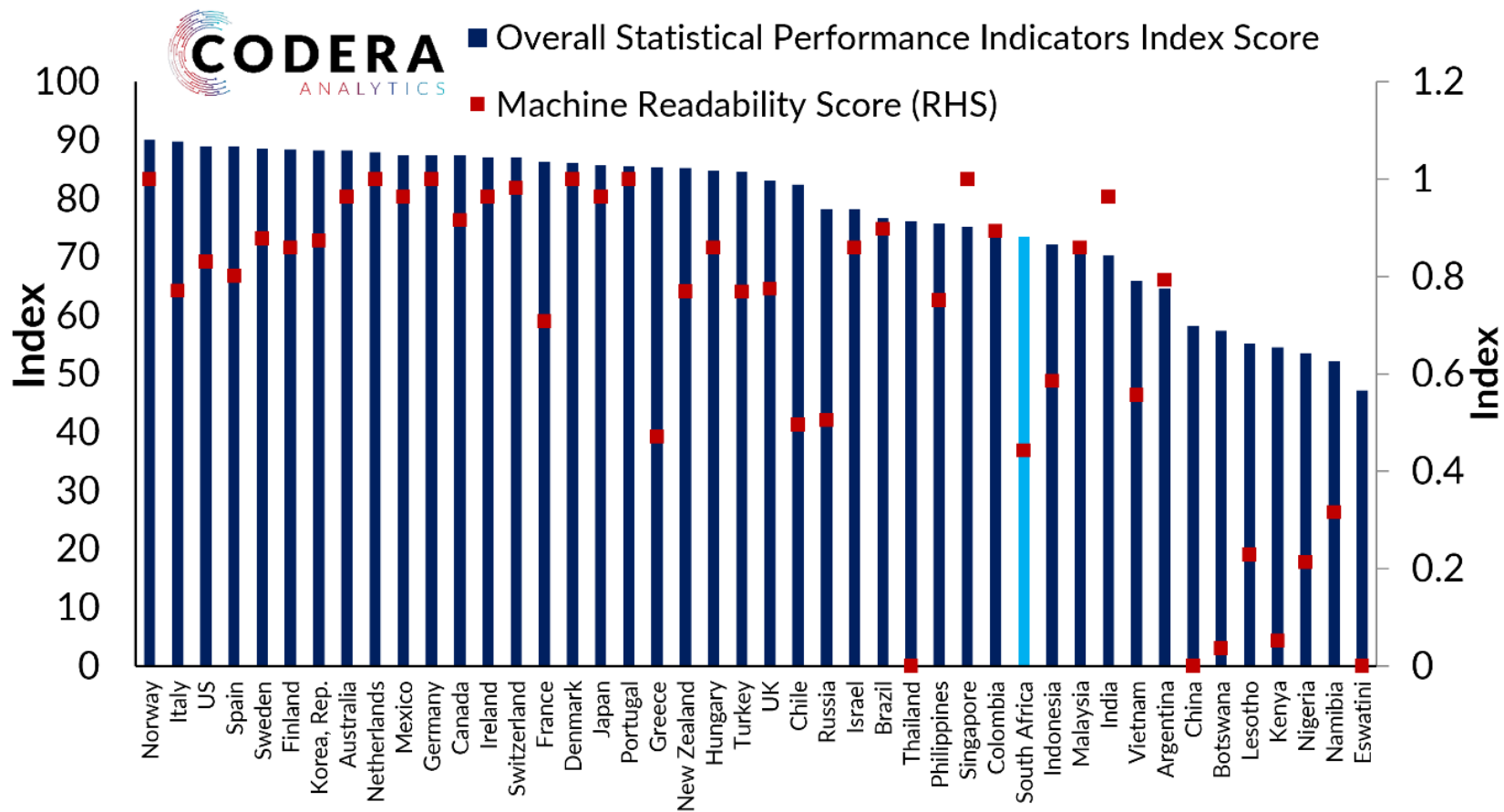

Scores of regulatory frameworks for Data Governance

Source: Chen,Rong - DECIG, 2021. "Mapping Data Governance Legal Frameworks Around the World : Findings from the Global Data Regulation Diagnostic," Policy Research Working Paper Series 9615, The World Bank.

… and accessibility

National Statistical Performance Indicators for selected economies

Legend:
- Overall Statistical Performance Indicators Index Score
- Machine Readability Score (RHS)

Source: World Bank, estimates for 2019. The Statistical Performance score contains indicators along five dimensions: data use, data services, data products, data sources, and data infrastructure. Each dimension of the five pillars incorporates several indicators.

And frameworks and accessibility

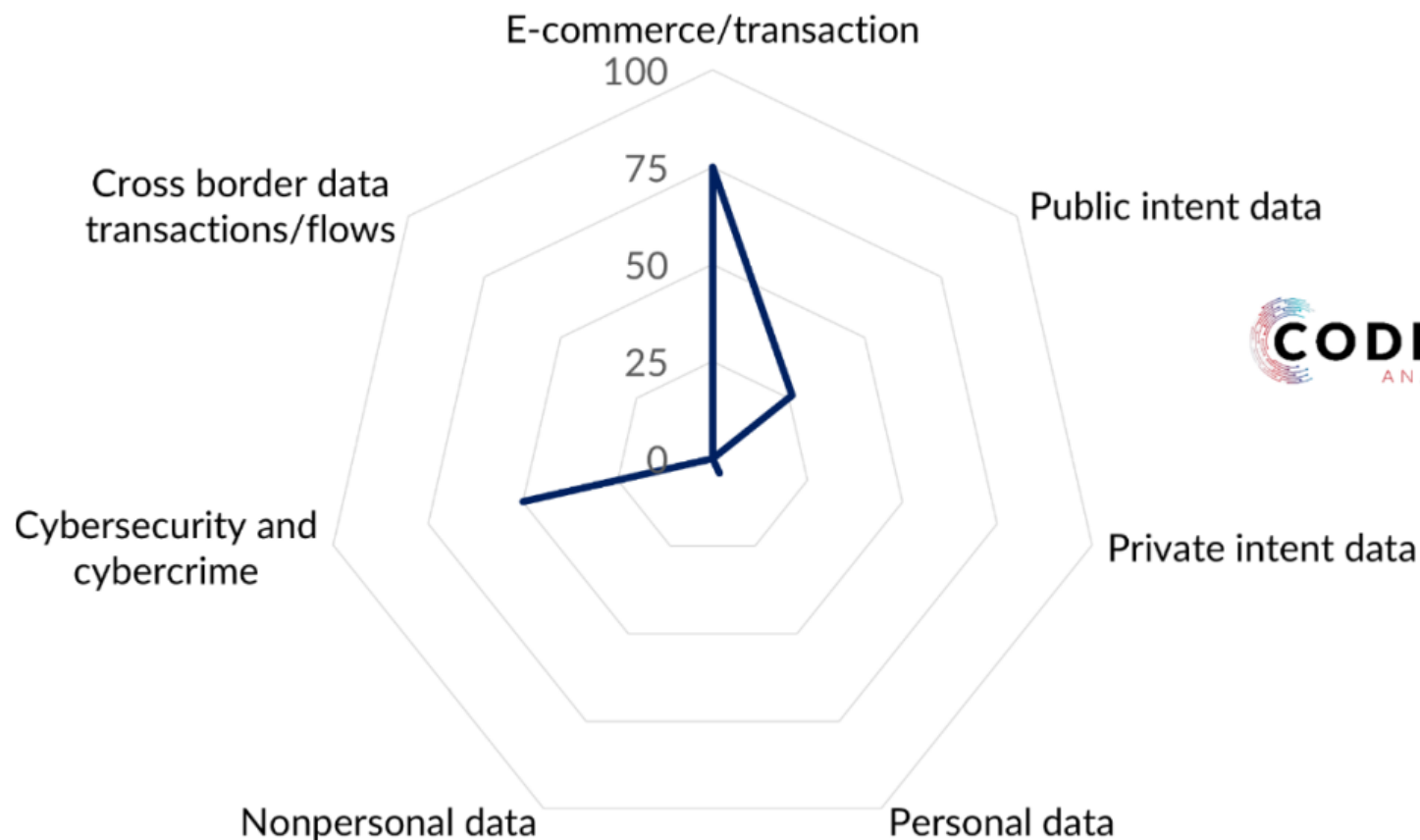**Global Data Barometer scores for selected economies (South Africa vs World Average vs Brazil)**
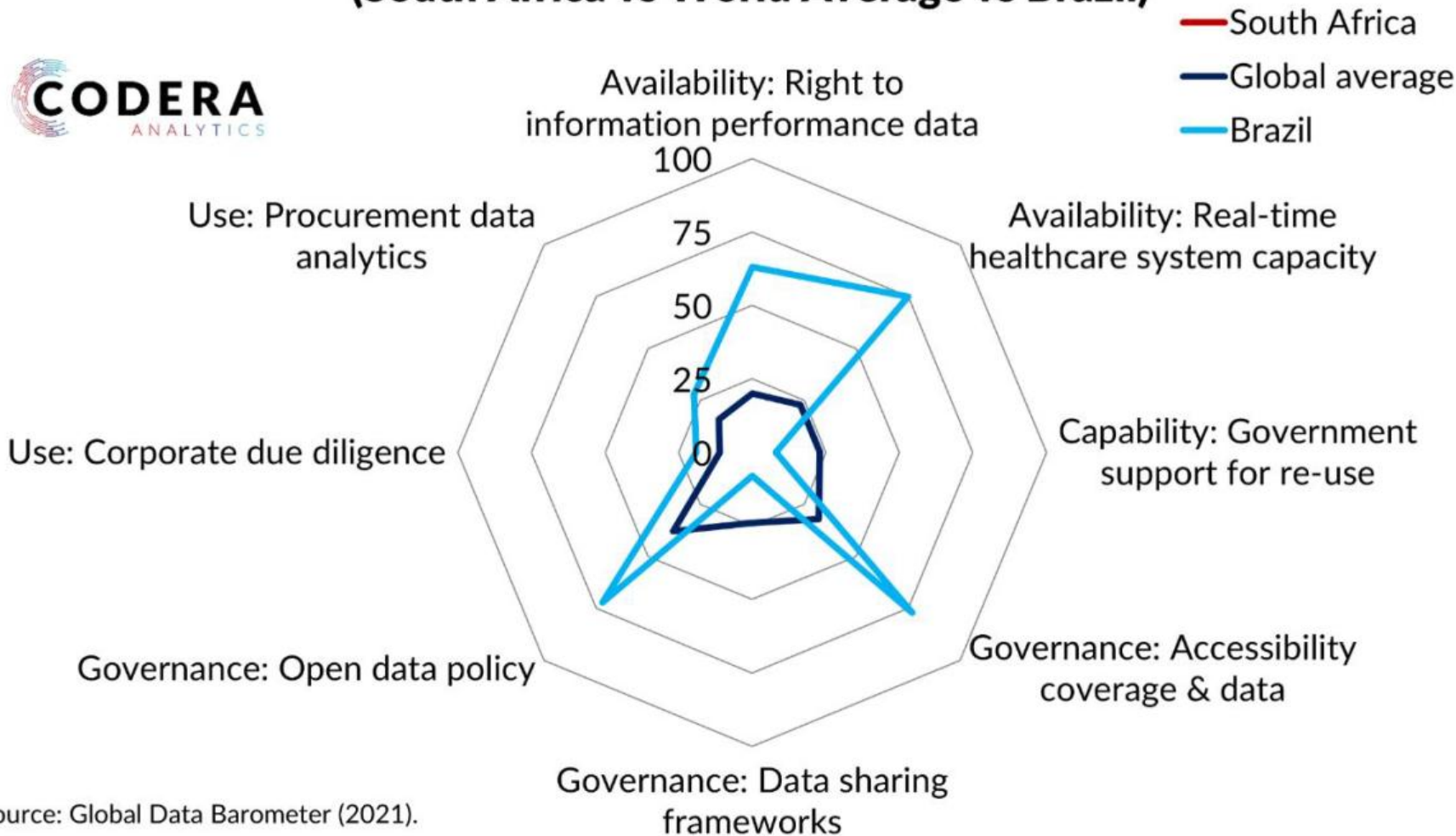
Source: Global Data Barometer (2021).

We lack frameworks for data sharing & access

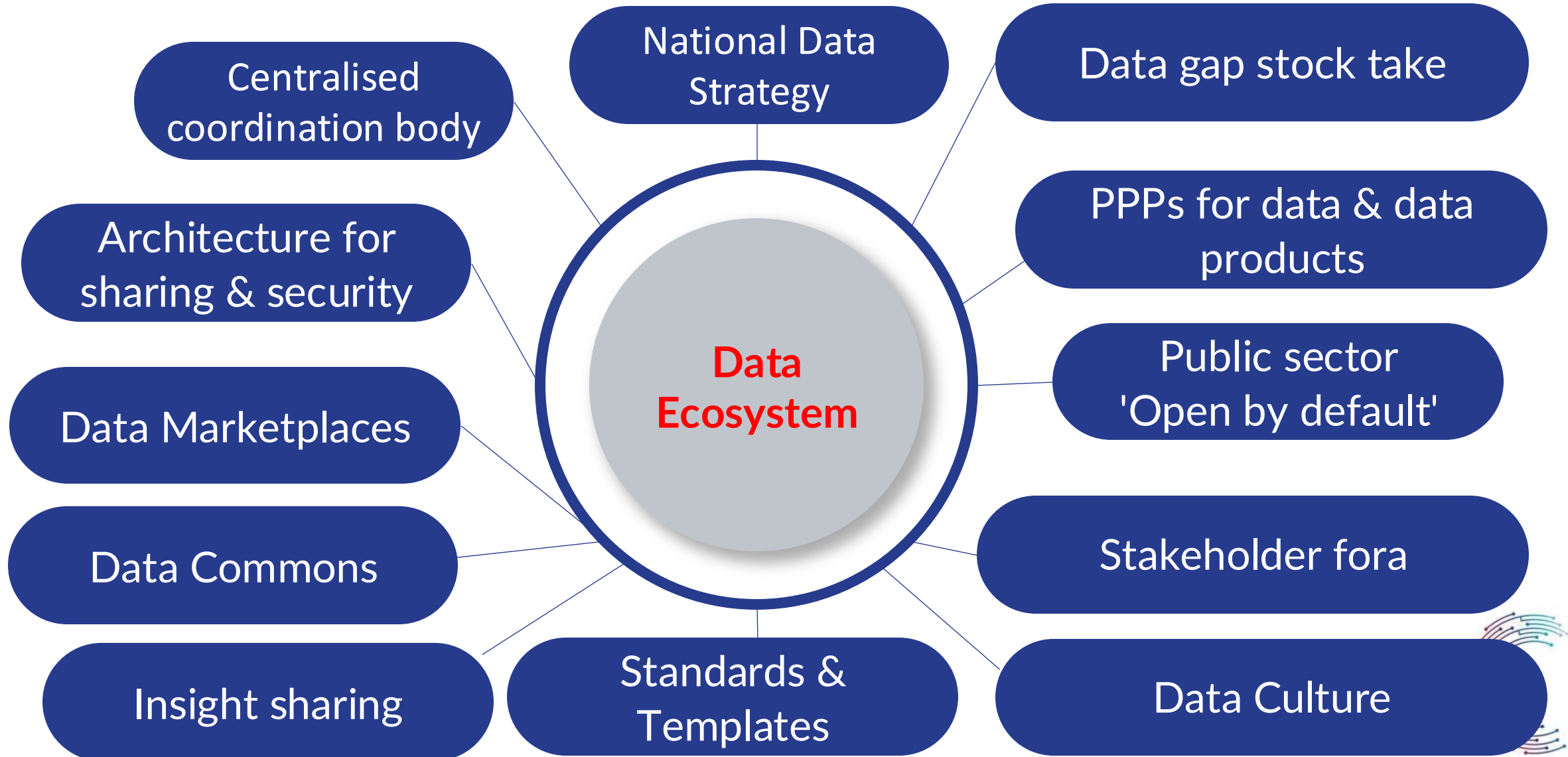**Legal regulatory assessment for data governance in South Africa**

Source: Chen,Rong - DECIG, 2021. "Mapping Data Governance Legal Frameworks Around the World : Findings from the Global Data Regulation Diagnostic," Policy Research Working Paper Series 9615, The World Bank.

Challenges and Opportunities

Modernising SA's data ecosystem

Data Ecosystem

- National Data Strategy
- Data gap stock take
- Centralised coordination body
- PPPs for data & data products
- Architecture for sharing & security
- Public sector 'Open by default'
- Data Marketplaces
- Stakeholder fora
- Data Commons
- Standards & Templates
- Insight sharing
- Data Culture
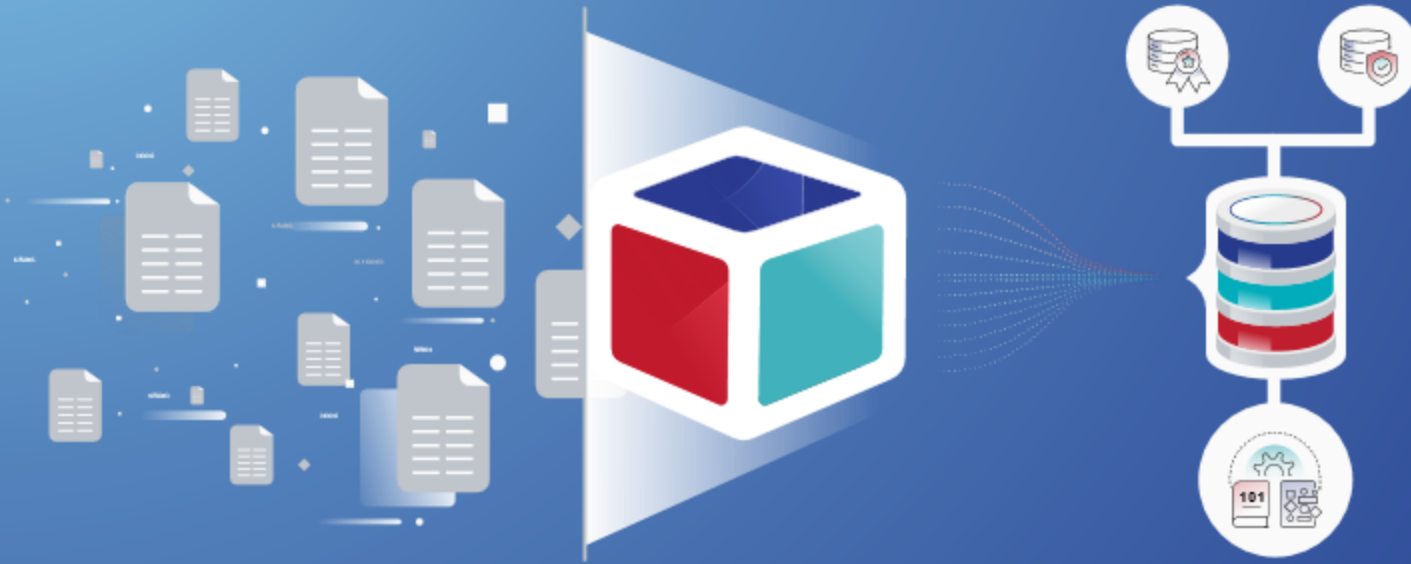
Data democratisation today

Join the community!

EconData.co.za

EXTRA SLIDES

CODERA
ANALYTICS

Mature your data management today

Make your organisation's data discoverable, accessible and automatically updated

- Integrate external and internal data sources

- Centralize data to be easily discoverable and shareable across teams

- Control role-based access for data sharing and governance

- Ensure interoperability: access via website, Excel, R, or Python

- Maintain an up-to-date glossary of data concepts

- Enable easy data validation

- Implement SDMX for best practice quality management and governance

- Enable workflow automation

EconData.co.za

Become a super-analyst

- Instant access to up-to-date information from a user-friendly platform, via Excel, website, or API

- Automate models, chart packs, dashboards, and reports

- Utilize forecast and scenario management tools to audit historical forecasts and improve performance over time

Automate your advanced analytics and boost your productivity

EconData.co.za

Harness your institution's data

- Integrate public domain, third-party and internal data

- Automate dashboards and reports

- Identify trends and synthesize implications

- Enable easy and secure collaboration and sharing across teams

Enable cross-institution interoperability and collaboration

EconData.co.za

Decision-ready analytics

- Data and model automation within a best practice data and model governance framework

- Automate advanced analytics and scenario forecasting to anticipate how macroeconomic and financial developments affect the outlook for industries and regional economies

- Generate 'what if' scenarios for strategic planning

Leading-edge forecast management and decision-ready analytics

EconData.co.za

INFO@CODERA.CO.ZA

CODERA
ANALYTICS