CHEITA

Putting the CHEITA Global Complexity Index to the test

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What is CHEITA

What is the CHEITA Benchmarking Project

Defining the Complexity Index

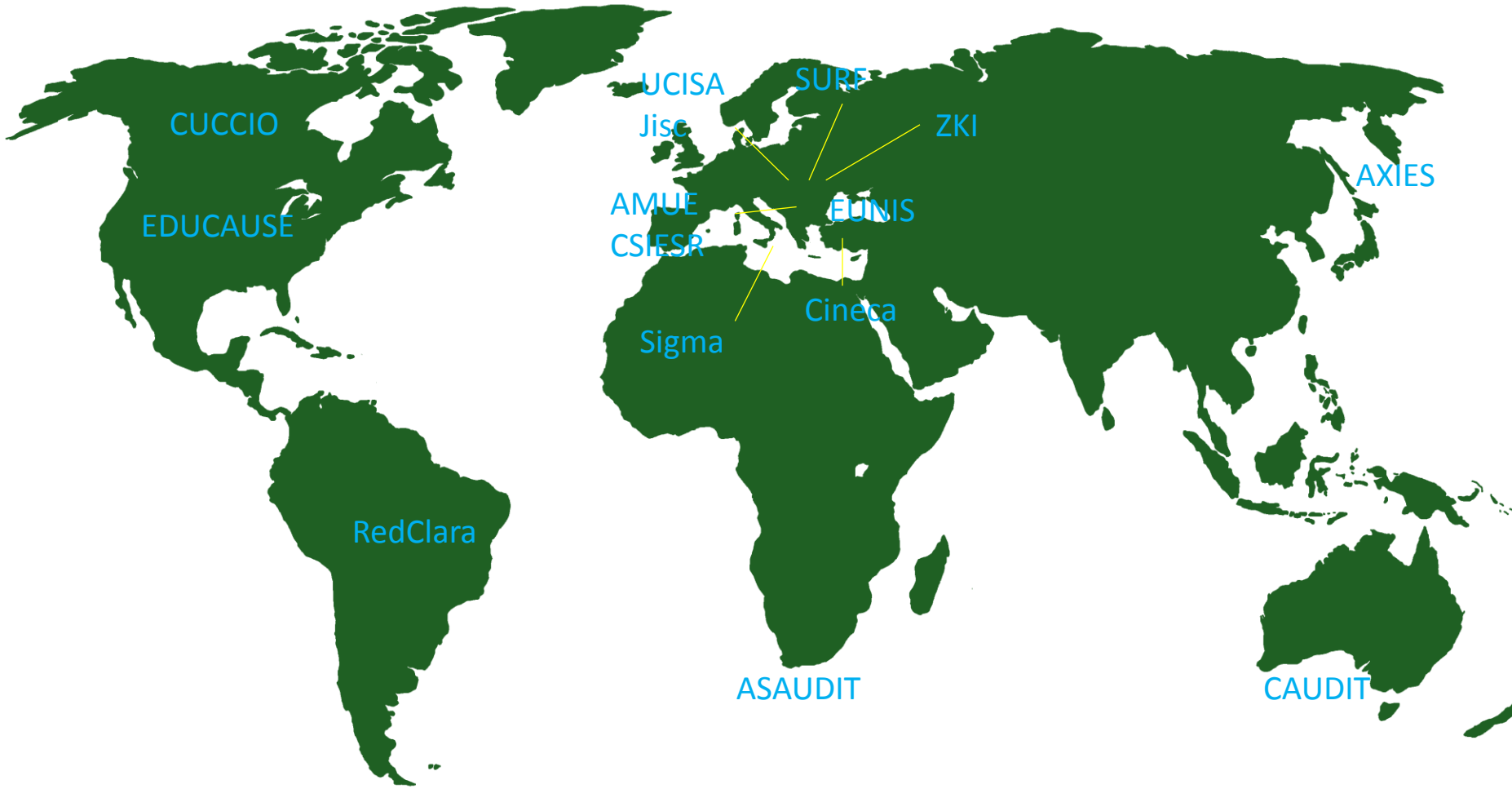
Benefits

Assumptions

Initial proof of concept

Further proof of concept

CHEITA membership



CHEITA Benchmarking Project Goals

- Provide a method or process to identify international peer institutions
  - Explore the Complexity Index as a possible approach to comparing institutions internationally
  - Develop an international Complexity Index for benchmarking
- Develop a small set of metrics which can be used to benchmark internationally (to be confirmed).

The CHEITA
Global Complexity Index

Origins

- CAUDIT developed the complexity index approach to benchmarking in 2007
- Found strong correlation between institutional IT spend and the complexity index
- Outliers are easily identified resulting in improved data quality
- Peers are easily identified to guide deeper benchmarking
- Use spread to Canada and South Africa

Inputs

- CAUDIT CI uses Staff FTE, Student EFTSL, research income and geography (number and size of sites) as inputs
- Why these inputs
- Largely based on publicly accessible data - not reliant on the CIO to collect the data
- CHEITA CI needed to be modified to exclude geography because this data was not easy to collect across all countries

The CHEITA Global Complexity Index

	Min	Max
Number of students (EFTSL)	0	45,000
Number of staff (FTE)	0	18,000
Research income ($)	0	$750,000,000

eftsl_ind = min(10,1+9*(student EFTSL/45,000))

fte_ind = min(10,1+9*(staff FTE/18,000))

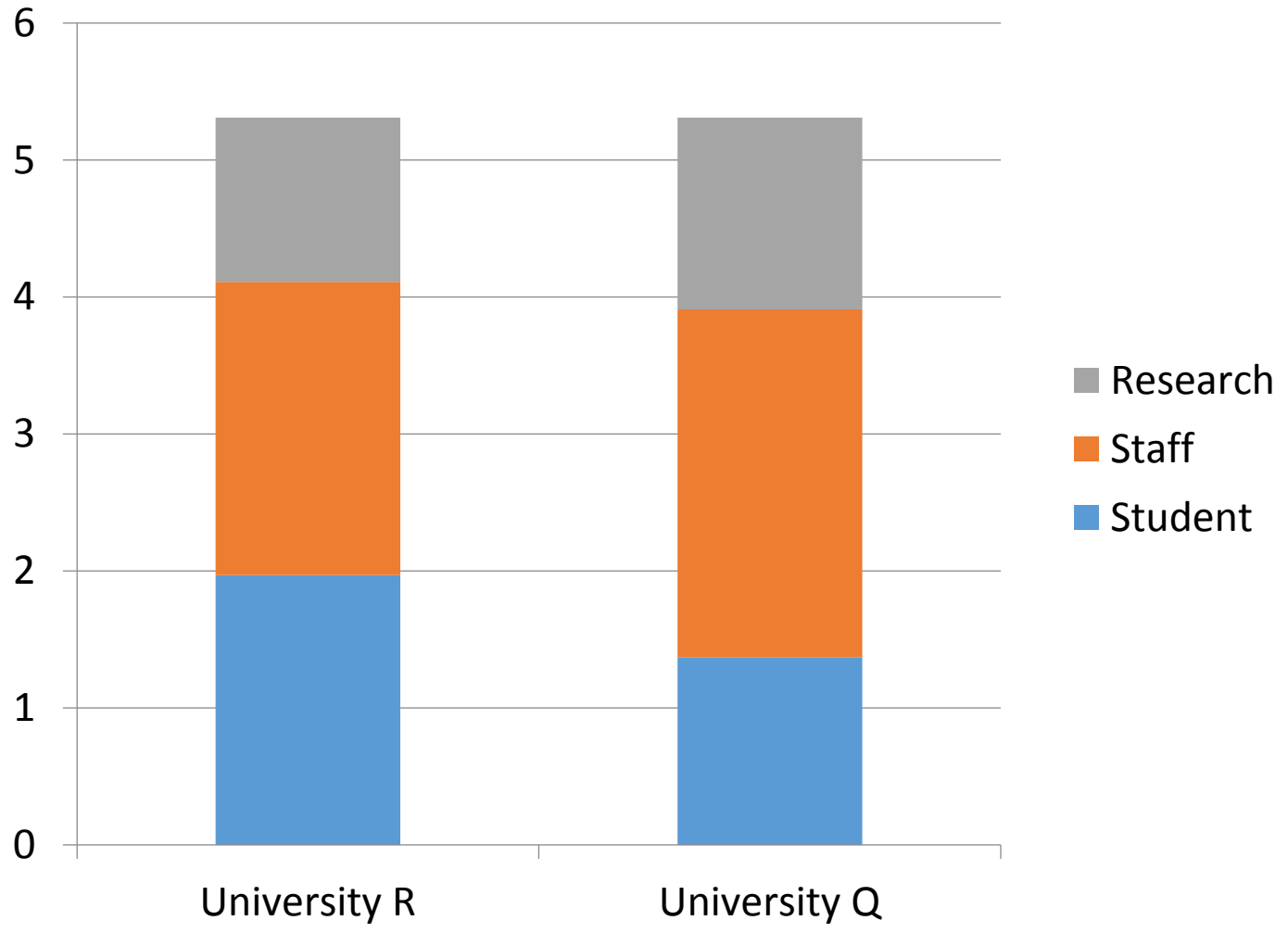
res_ind = min(10,1+9*(research income/750,000,000))

comp_ind = eftsl_ind*.35 + fte_ind*.35 + res_ind*.30

Calculation method

1. Obtain the raw measurement
2. Scale the raw measurement (using a linear algorithm) between 1 and 10 based on the max and min values for the “international” higher education sector
3. Apply a weighting to the scaled measurement based on the relative importance of the underlying measure (35% for students, 35% for staff, and 30% for research income).
4. Add up the 3 weighted measurements to get the final result

University R & Q



Currency conversion

- CAUDIT experience comparing expenditure between Australia and New Zealand showed that a simple currency conversion is not appropriate
- Alternative method needed
- Better to use Purchasing Power Parity (PPP) to normalize the financial data - research income and institutional IT spend

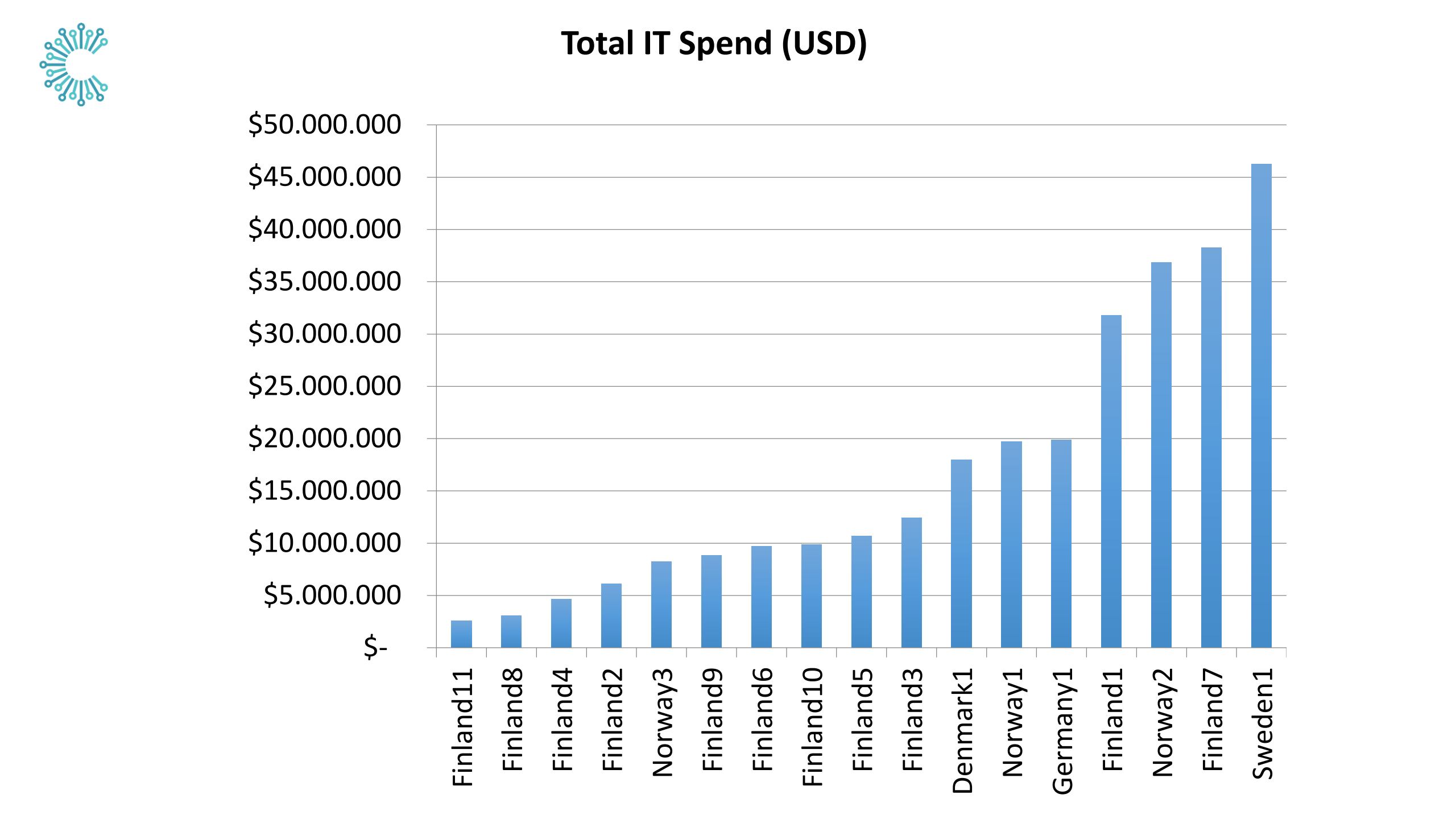
Assumptions

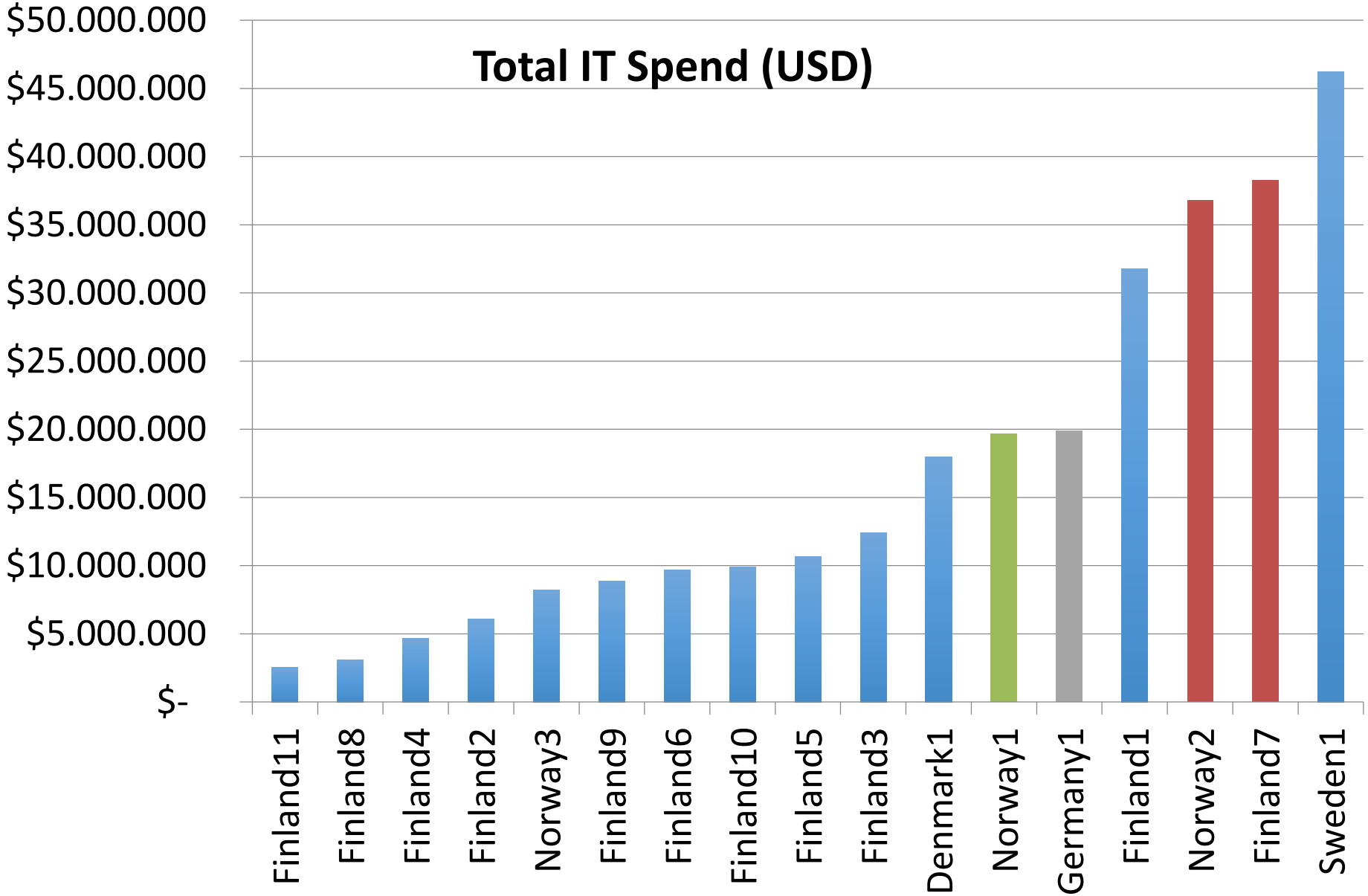
- Separates inherent from introduced complexity
- The complexity index accounts for most institutional complexity
- All countries have access to similar data
- PPP serves as an appropriate currency conversion

Benefits of the GCI

- Based on the CAUDIT index, which is already used in Australia and New Zealand, Canada, and South Africa.
- The calculation and use of the index is relatively simple and straightforward.
- Based largely on publicly available data
- Based on stable institutional measures rather than technology measures
- Can readily identify members of peer groups that can undertake deeper benchmarking.
- Can be used in parallel with other classification approaches to further refine large peer groups.
- Can be used to improve data quality - outliers become very obvious

Initial proof of concept


Total IT Spend (USD)
$50.000.000
$45.000.000
$40.000.000
$35.000.000
$30.000.000
$25.000.000
$20.000.000
$15.000.000
$10.000.000
$5.000.000
$-
Finland11
Finland8
Finland4
Finland2
Norway3
Finland9
Finland6
Finland10
Finland5
Finland3
Denmark1
Norway1
Germany1
Finland1
Norway2
Finland7
Sweden1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Finland11
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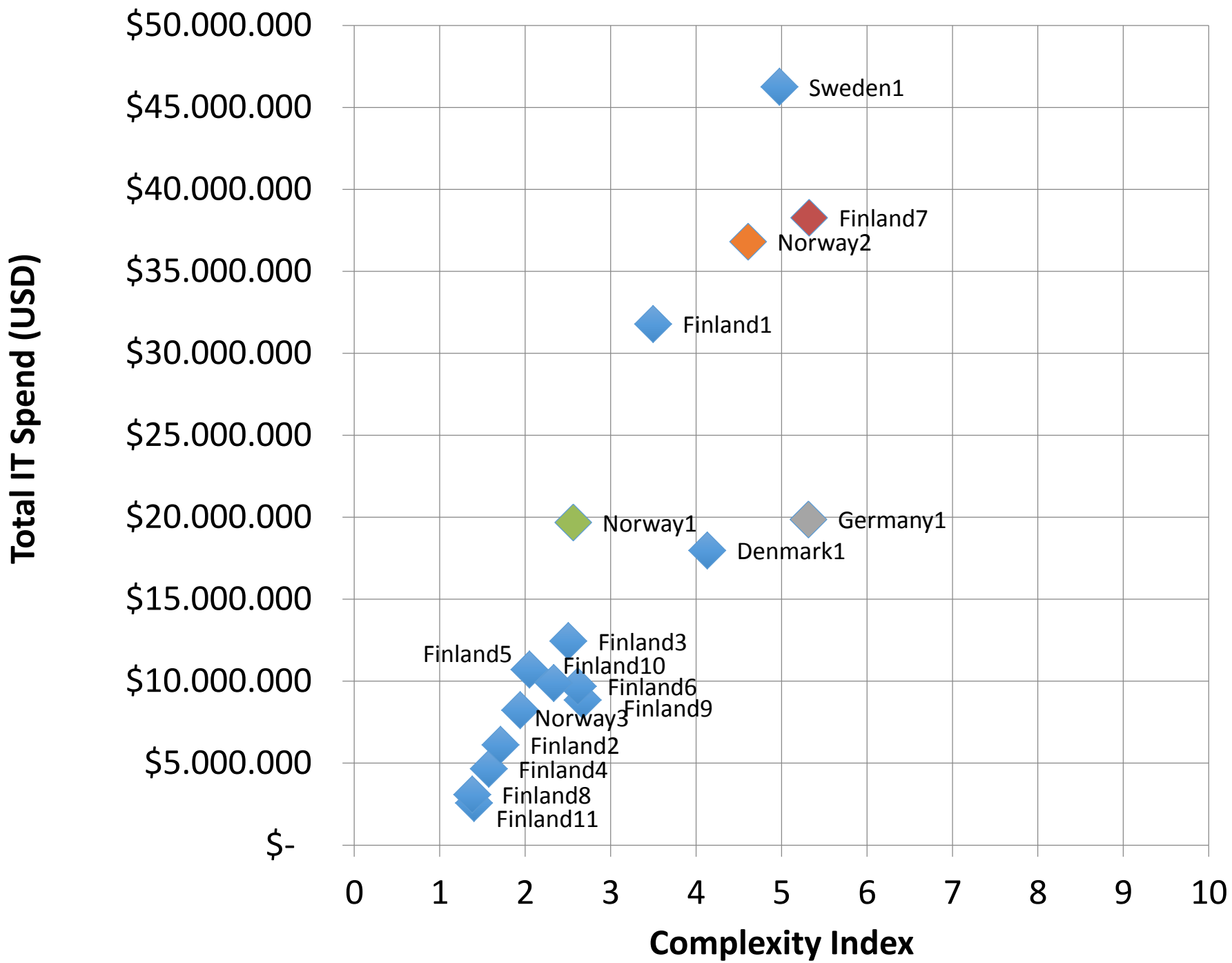
Norway1
Germany1
Finland1
Norway2
Finland7
Sweden1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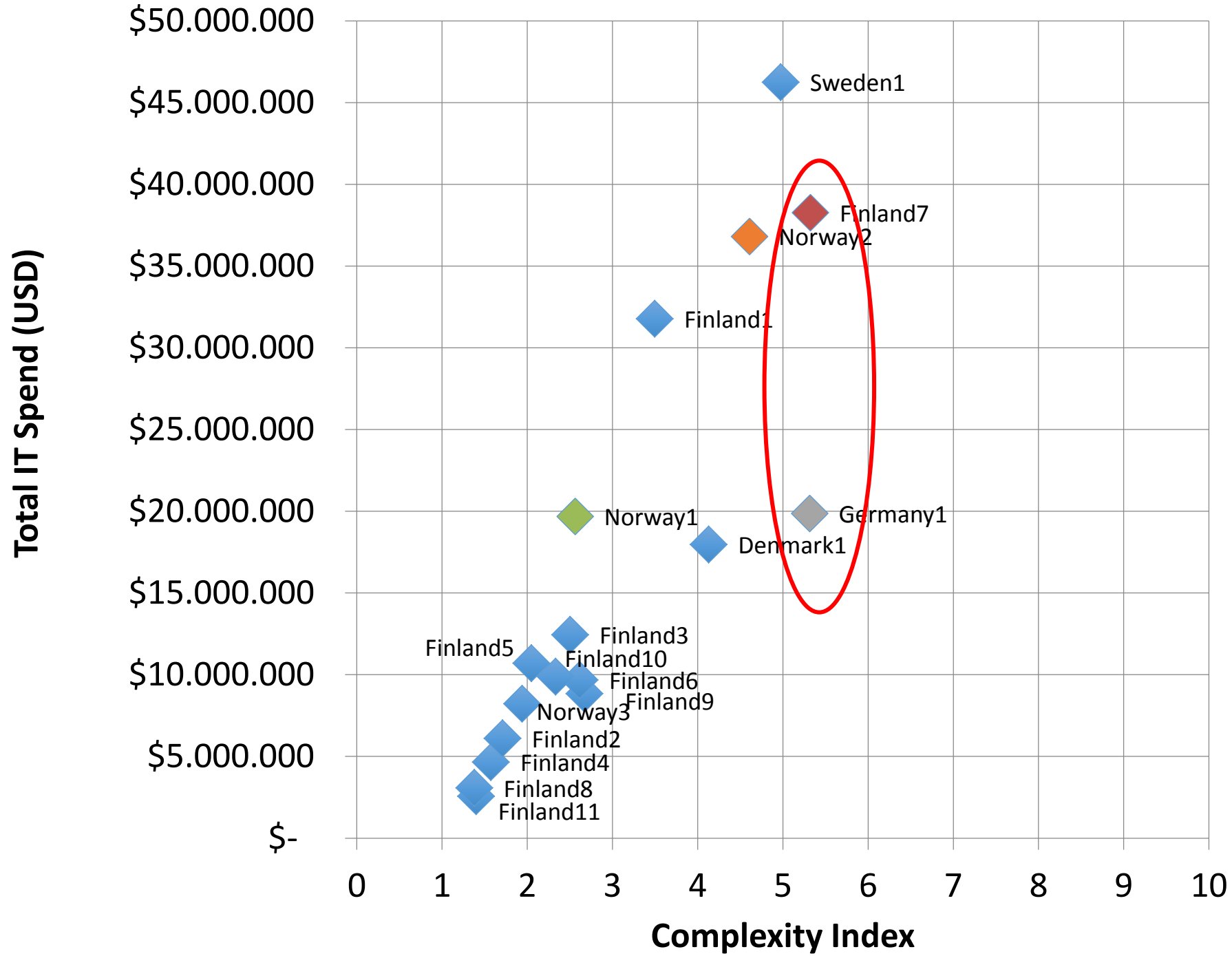
$5.000.000
$-
Total IT Spend (USD)
0
1
2
3
4
5
6
7
8
9
10
Complexity Index
Sweden1
Finland7
Norway2
Finland1
Norway1
Germany1
Denmark1
Finland3
Finland5
Finland10
Finland6
Finland9
Norway3
Finland2
Finland4
Finland8
Finland11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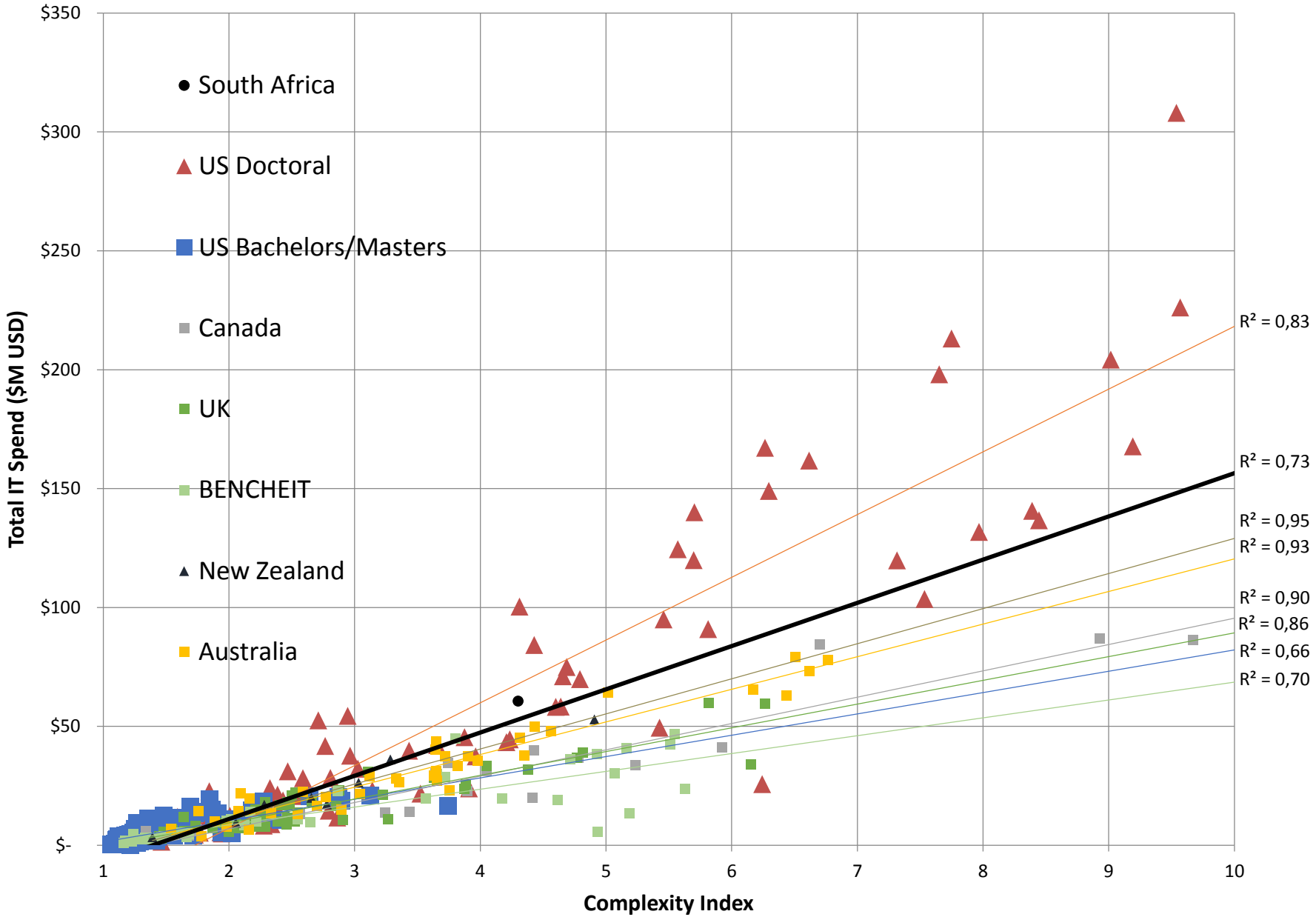
$10.000.000
$5.000.000
$-
Total IT Spend (USD)
0
1
2
3
4
5
6
7
8
9
10
Complexity Index
Sweden1
Finland7
Norway2
Finland1
Norway1
Germany1
Denmark1
Finland3
Finland5
Finland10
Finland6
Finland9
Norway3
Finland2
Finland4
Finland8
Finland11

Total IT spend (USD) v Complexity
(by country)

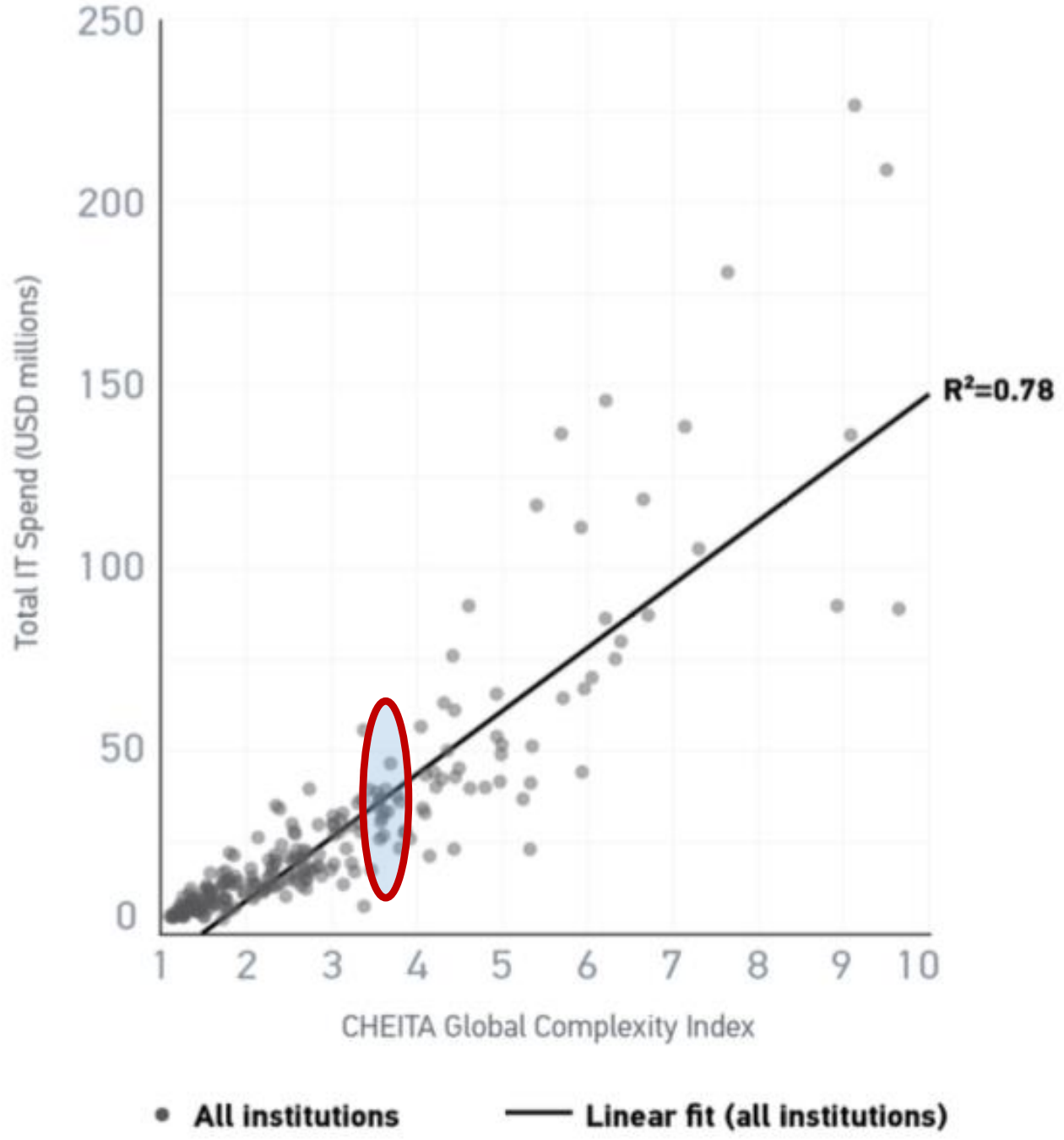


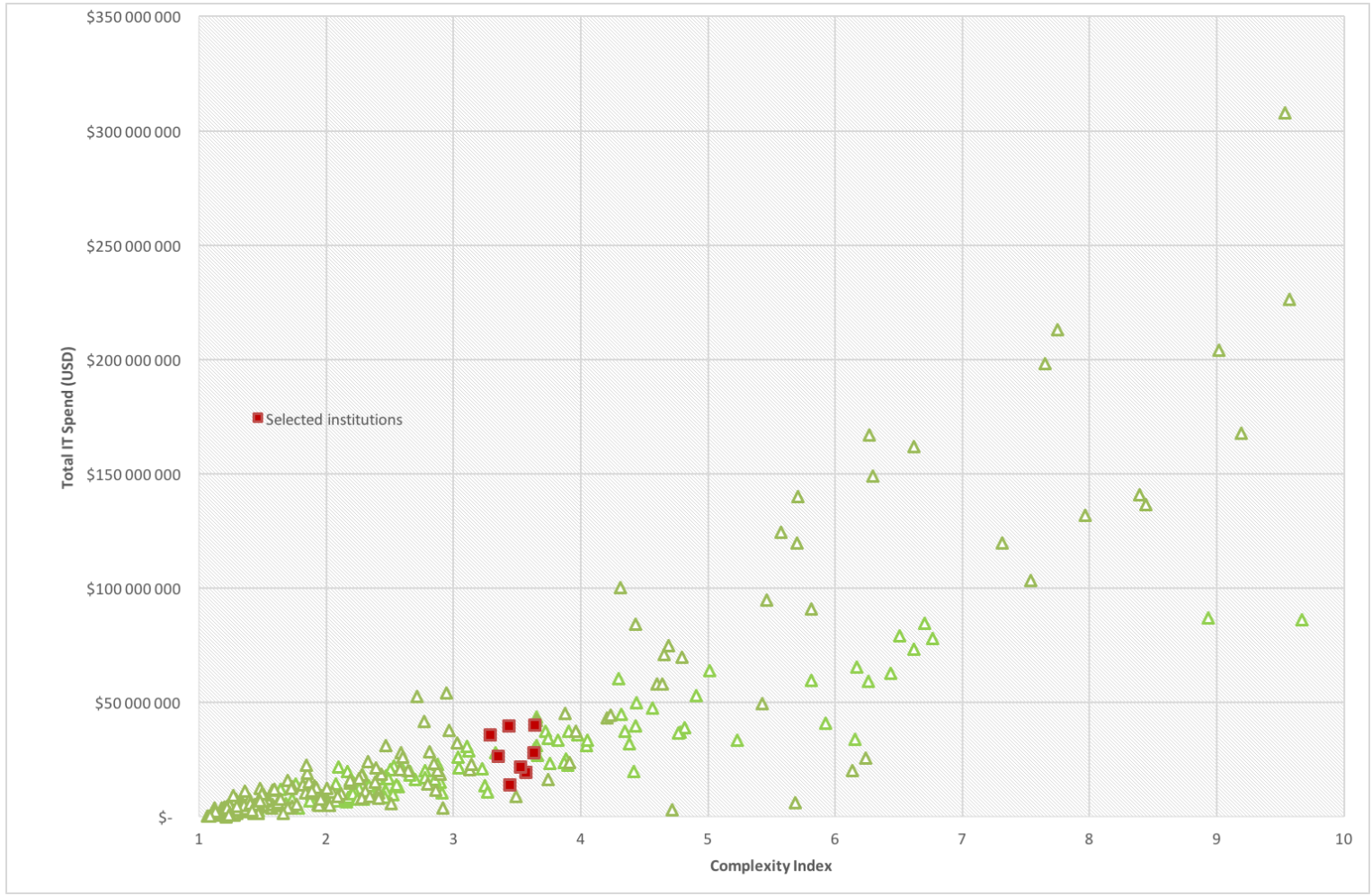
Proof of concept (ii)

- Identify a set of comparator institutions and through participation in a virtual workshop investigate data quality, appropriateness of the model, etc.
- Based on the outcome of these discussions possible next steps include
  - refining the methodology and the model
  - encouraging broader participation
  - developing a small set of metrics for additional international benchmarking

Proof of concept (ii)

- to further prove the concept of the complexity index as a basis for international comparison (i.e. to verify that it actually does identify institutions that are broadly similar)
- to identify if there are differences related to the educational systems in each country (for example, should we expect that countries that have a high degree of state funding/involvement spend less on their ICT? Is that what the different slopes of the lines reflect?)
- are there any differences due to the maturity of service development/operational differences


250
200
150
100
50
0
Total IT Spend (USD millions)
1
2
3
4
5
6
7
8
9
10
CHEITA Global Complexity Index
R²=0.78
All institutions
Linear fit (all institutions)


$350 000 000
$300 000 000
$250 000 000
$200 000 000
$150 000 000
$100 000 000
$50 000 000
$-
Total IT Spend (USD)
Selected institutions
1
2
3
4
5
6
7
8
9
10
Complexity Index

Institution	CI	IT Spend ($ PPP)	Staff (FTE)	Students (FTE)	Research Income
US182	3.43	45 393 804	4260	25 586	84 302 232
US167	3.52	21 692 378	3558	28 623	52 302 490
AUS9	3.32	24 702 252	3114	23 205	40 646 611
AUS32	3.50	35 736 698	3110	26 634	26 733 097
Canada10	3.44	13 953 388	5403	16 090	102 252 800
UK9	3.63	28 248 587	4738	19 639	118 156 780
Norway2	3.57	19 594 865	3566	14 830	252 063 492
NZ4	3.33	33 649 306	3838	18 896	92 913 137

Data to be gathered (i)

- IT spend - total, breakdown by 4-6 categories, spending profile, run/grow/transform, compensation/noncompensation/capital, spend per staff member, spend per student, spend by revenue,
- IT staff size - total, $ associated with staffing, numbers and levels
- Relative maturity of services?
- progression into the cloud
- how well they’re going with mobility support

Data to be gathered (ii)

- help desk information
- quality measures that may be different across institutions, for example:
- national survey results
- satisfaction survey results
- identify what the institutions are doing differently

Questions?

- CHEITA website: www.cheita.org
- Benchmarking IT: A Global approach http://tinyurl.com/nrz42bk