



UNIVERSITY of  
**STIRLING**



# Choice, Attainment and Positive Destinations

Marina Shapira, Mark Priestley, Tracey Peace-Hughes, Camilla Barnett  
and Michelle Ritchie

# DOES FEWER SUBJECT CHOICES MEAN BETTER ATTAINMENT?

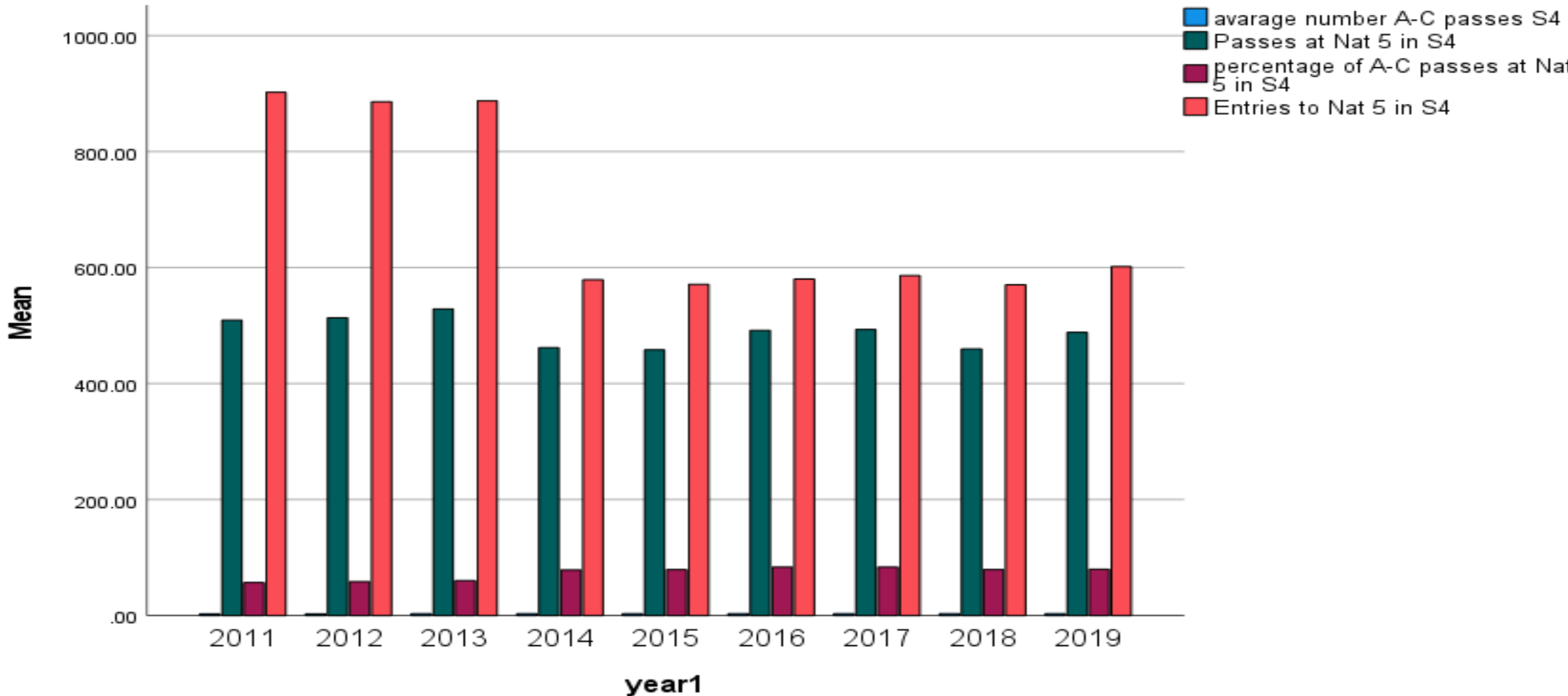
Impact of Narrowing the Secondary Curriculum in S<sub>4</sub> on Attainment in the senior phase of  
secondary education in Scotland

Marina Shapira

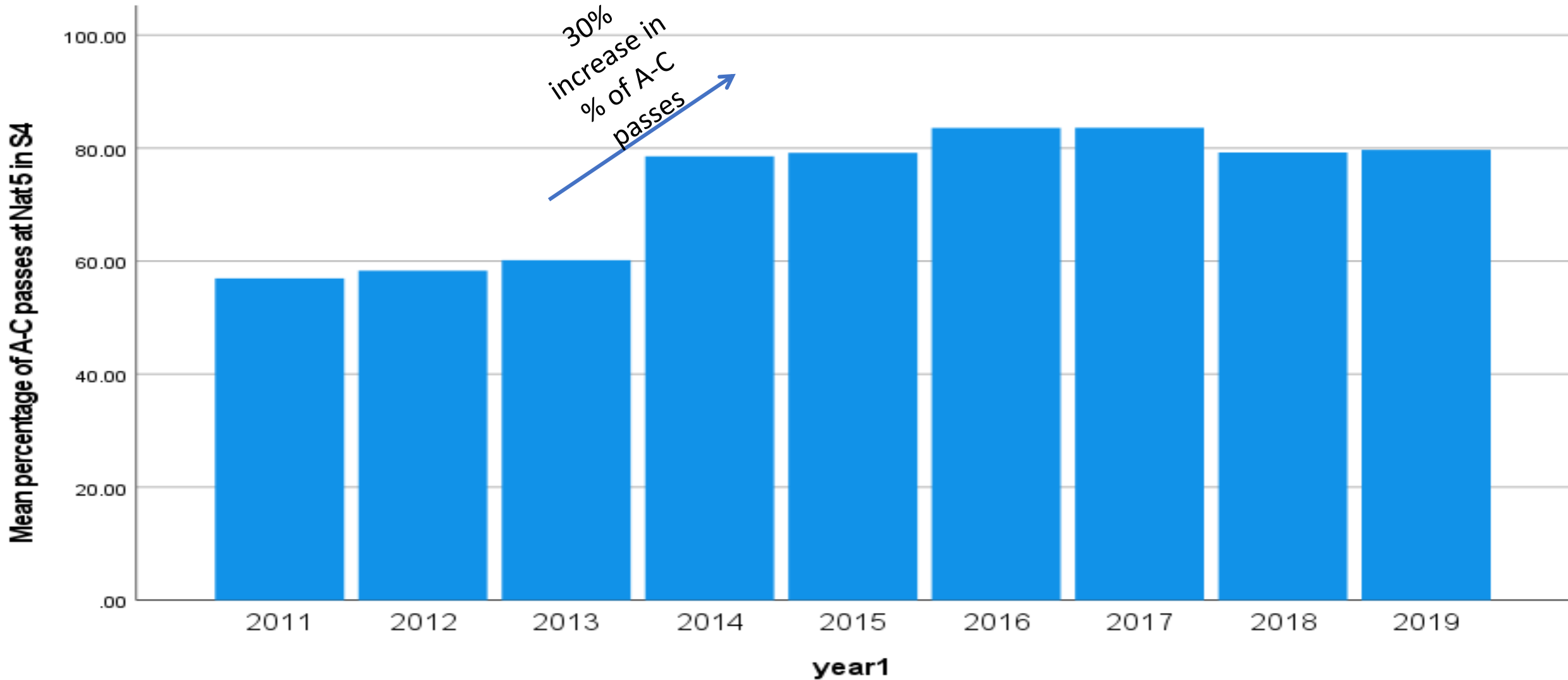
# AIMS AND BACKGROUND

- This paper explores the impact of secondary curriculum narrowing under the Scottish Curriculum for Excellence (CfE) on attainment in the senior phase of secondary education, under the Scottish Curriculum for Excellence (CfE).
  - The curriculum narrowing manifests itself through a reduced number of subjects that pupils take for SCQF Level 5 (National 5) qualifications
  - The study analysed Scottish Government longitudinal administrative education data (2011-2019)
  - The data are aggregated at the level of schools and linked with Scottish School Census data that provides information about school characteristics (in terms of their size, number of qualified teachers, socio-economic composition).

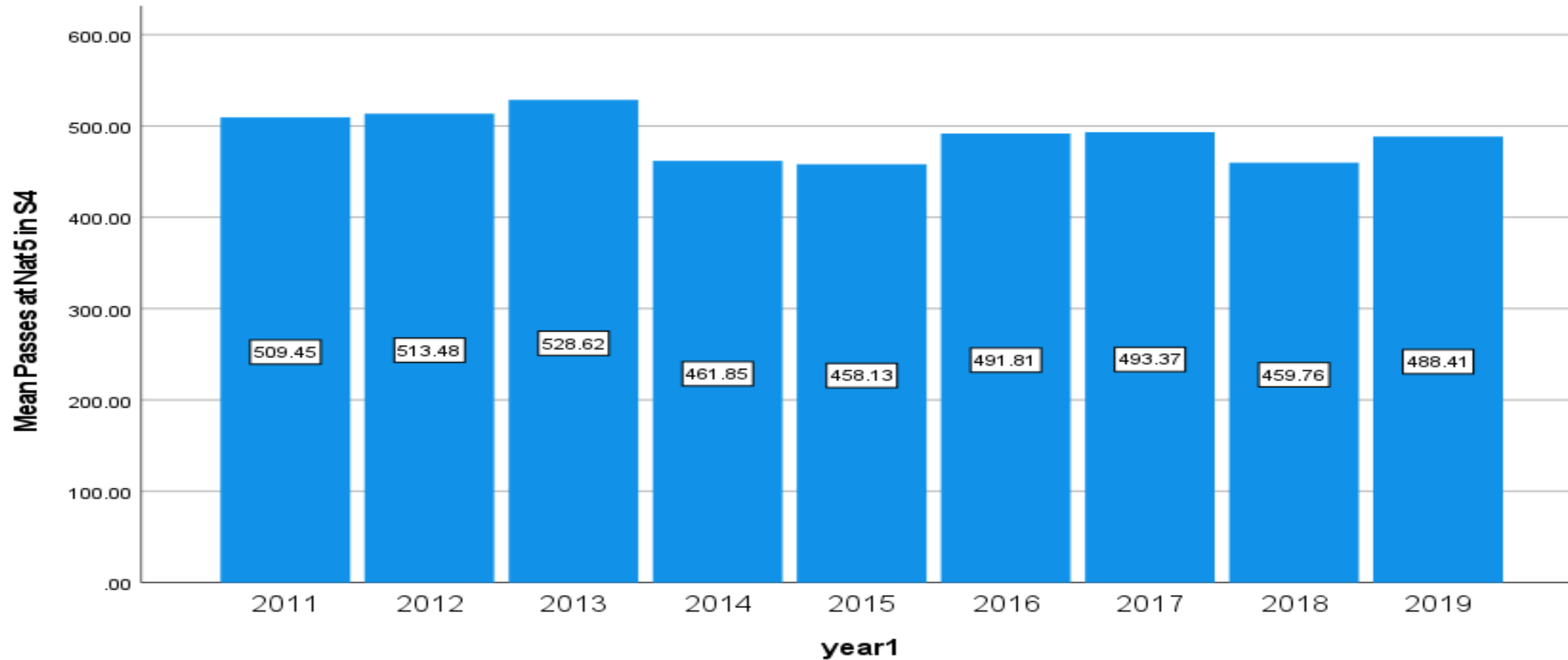
NUMBER OF ENTRIES IN NAT 5 QUAL IN S<sub>4</sub> (PINK LINE)  
 NUMBER OF A-C PASSES FOR NAT 5 QUAL IN S<sub>4</sub> (DARK GREEN LINE)  
 PERCENTAGE OF A-C PASSES FOR NAT<sub>5</sub> QUAL IN S<sub>4</sub> (PURPLE LINE)



# PERCENTAGE OF A-C PASSES FOR NAT5 QUAL IN S4

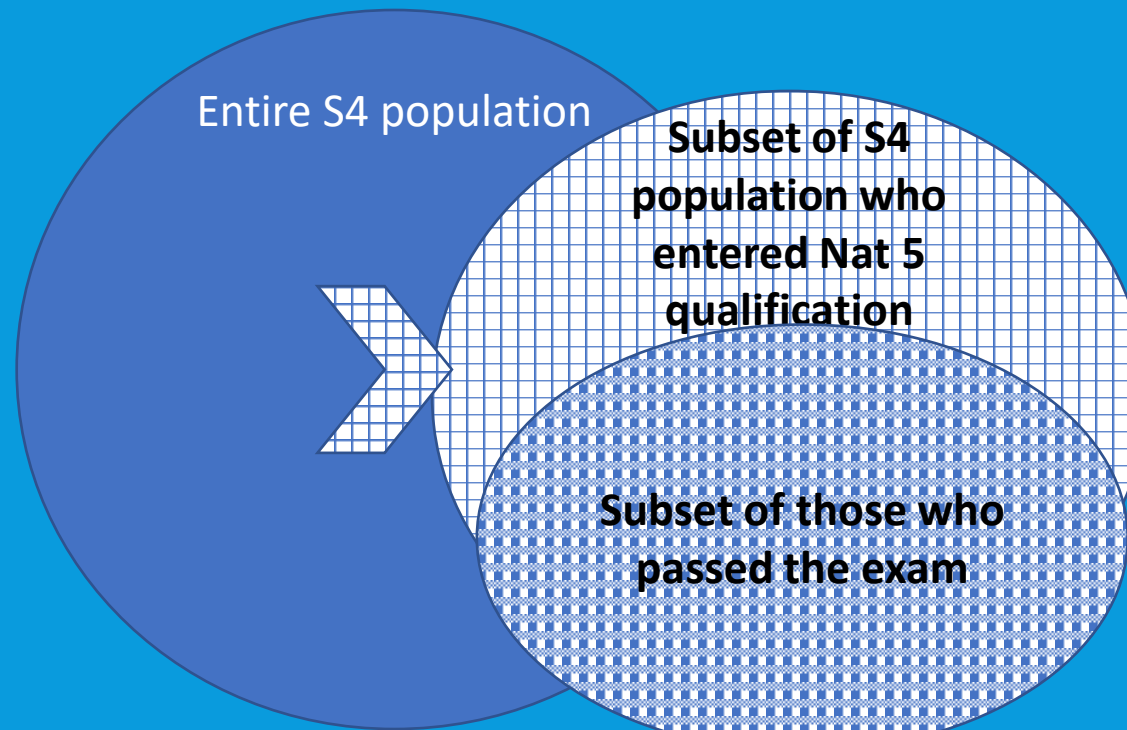
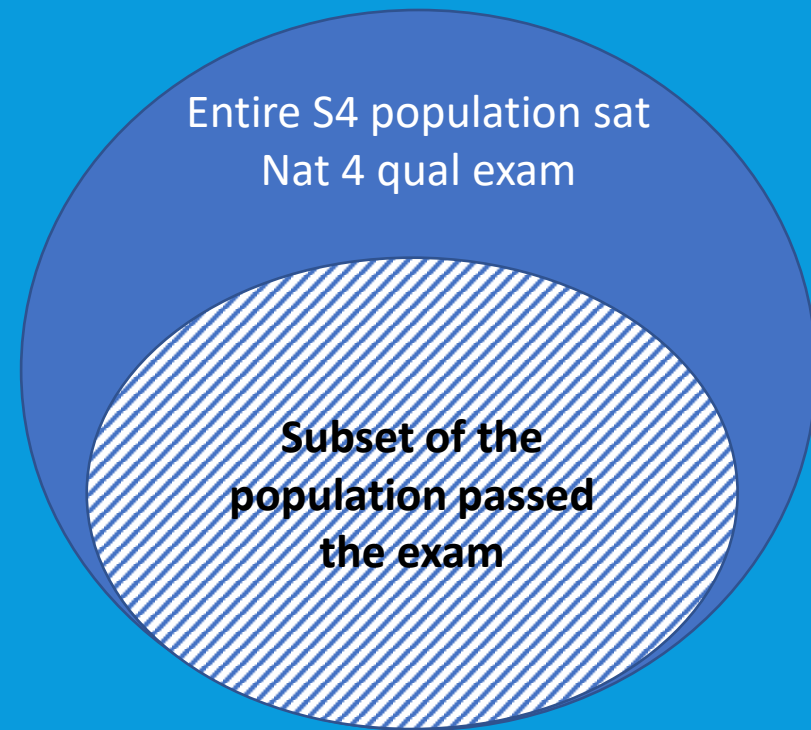


# NUMBER OF A-C PASSES FOR NAT 5 QUAL IN S<sub>4</sub>



# SELECTION BIAS – RATHER THAN DEALING WITH A RANDOM SAMPLE OUR SAMPLE IS BIASED

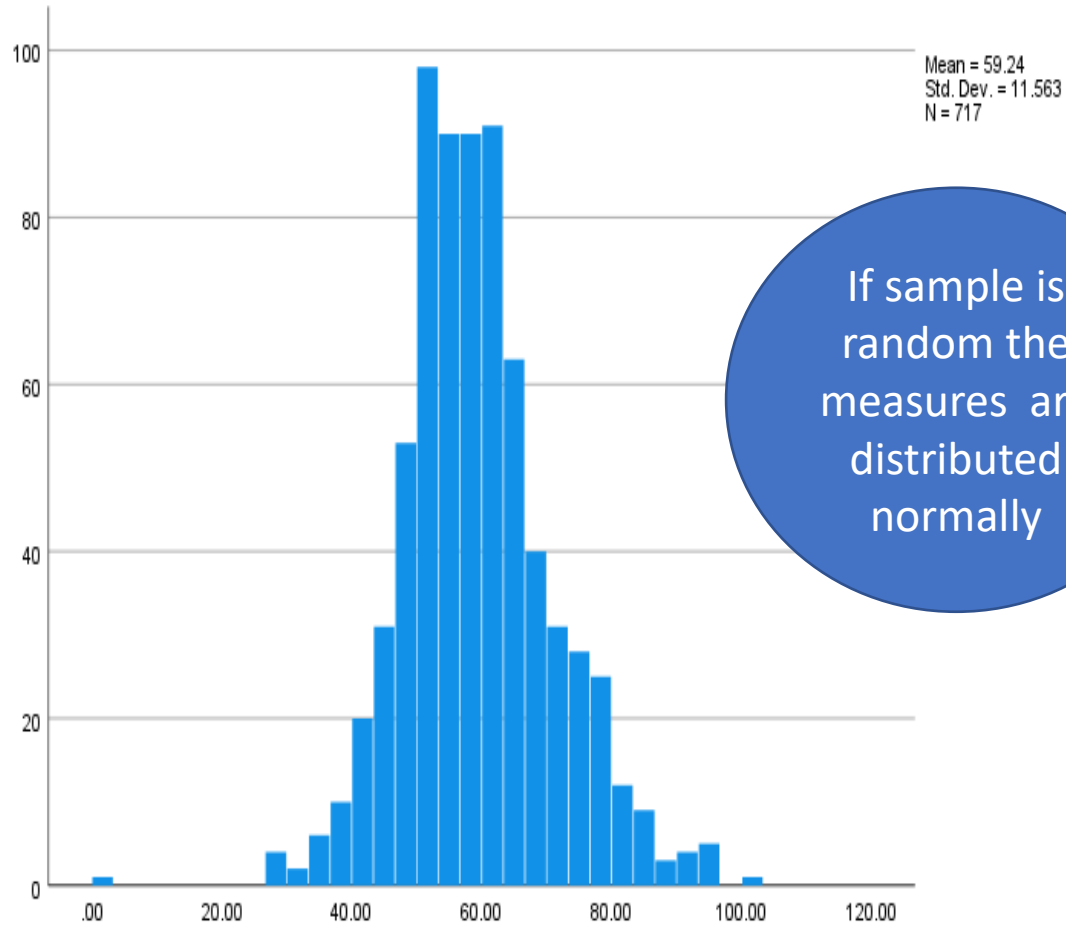
- Before 2014
- No selection to enter the exam (60% passed)
- 2014 and after
- Pre selection of those who enter Nat 5 qualifications (80% of those who entered Nat 5 qualifications passed)



Selection bias is often determined by the same factors that affect the depended variable (i.e. the level of deprivation influences both the subject choice and attainment)

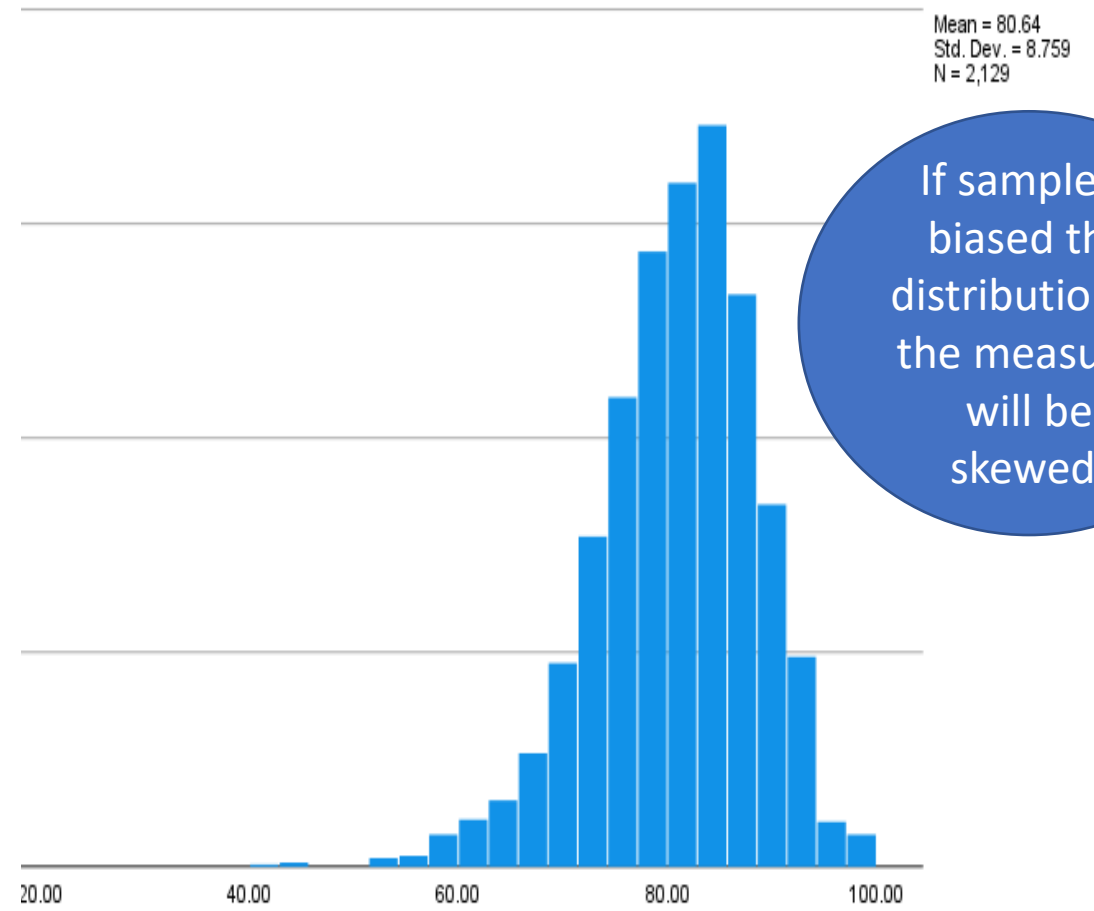
# PASSES IN NAT 5 QUALIFICATIONS IN S4 BEFORE AND AFTER THE INTRODUCTION OF NEW QUALIFICATIONS UNDER THE CFE.

Introduction of new qualifications under the CFE: before 2014



If sample is random the measures are distributed normally

Introduction of new qualifications under the CFE: 2014 and after



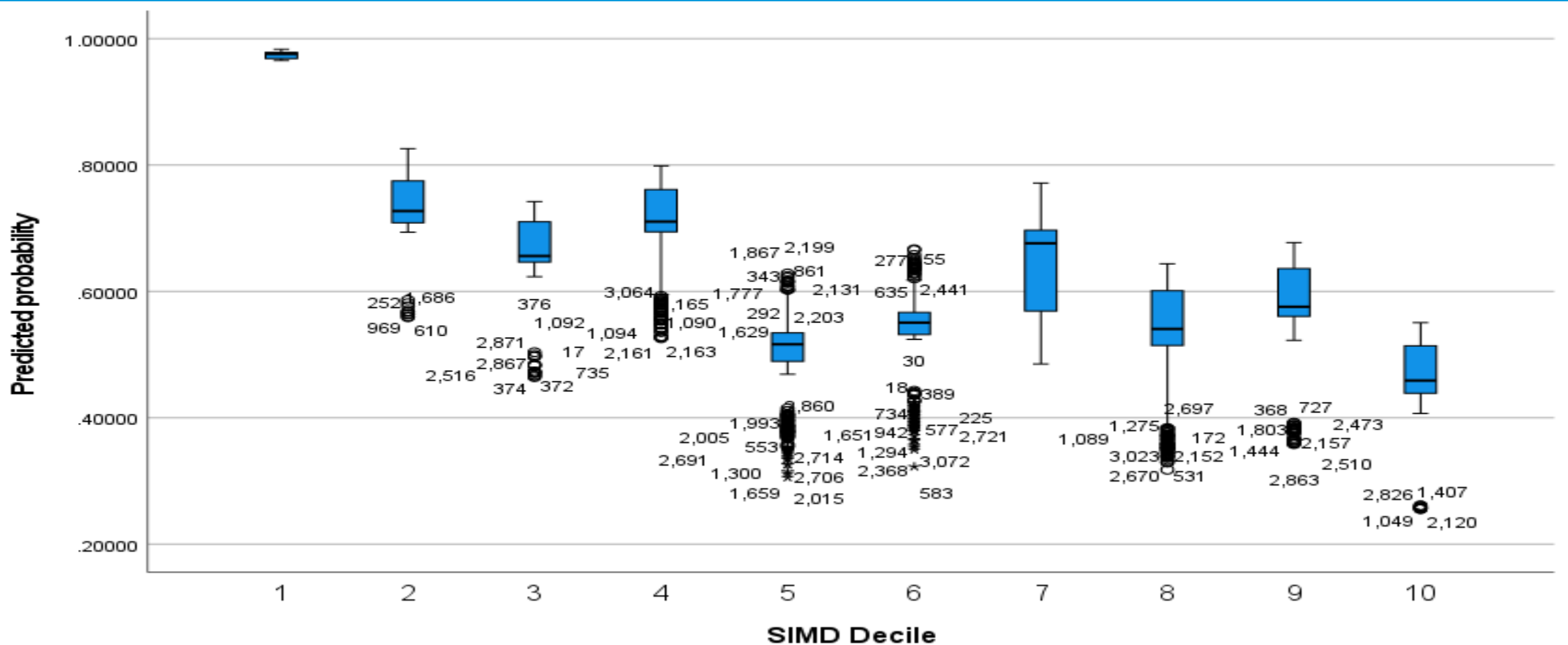
If sample is biased the distribution of the measures will be skewed.

percentage of A-C passes at Nat 5 in S4

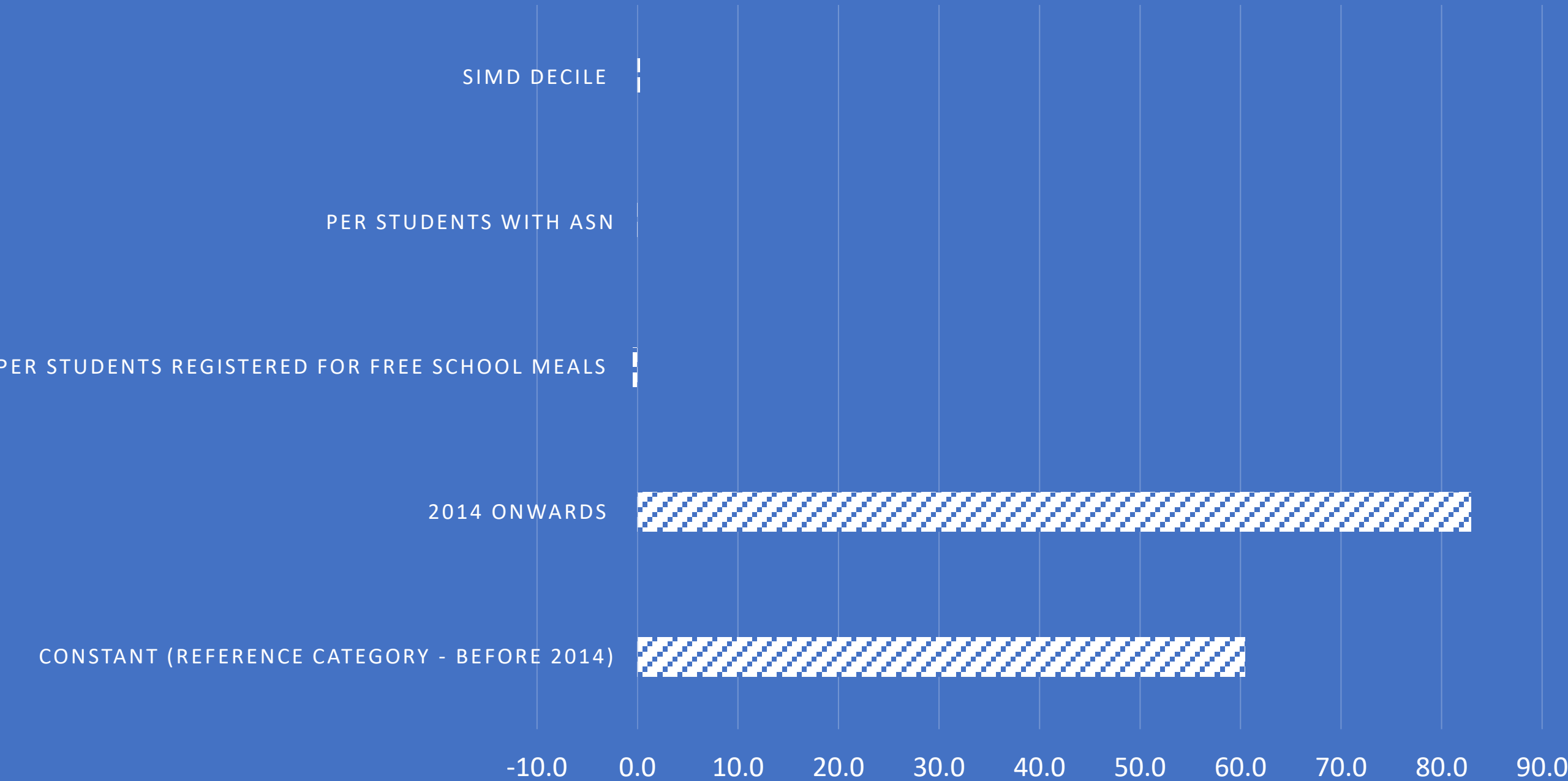
percentage of A-C passes at Nat 5 in S4



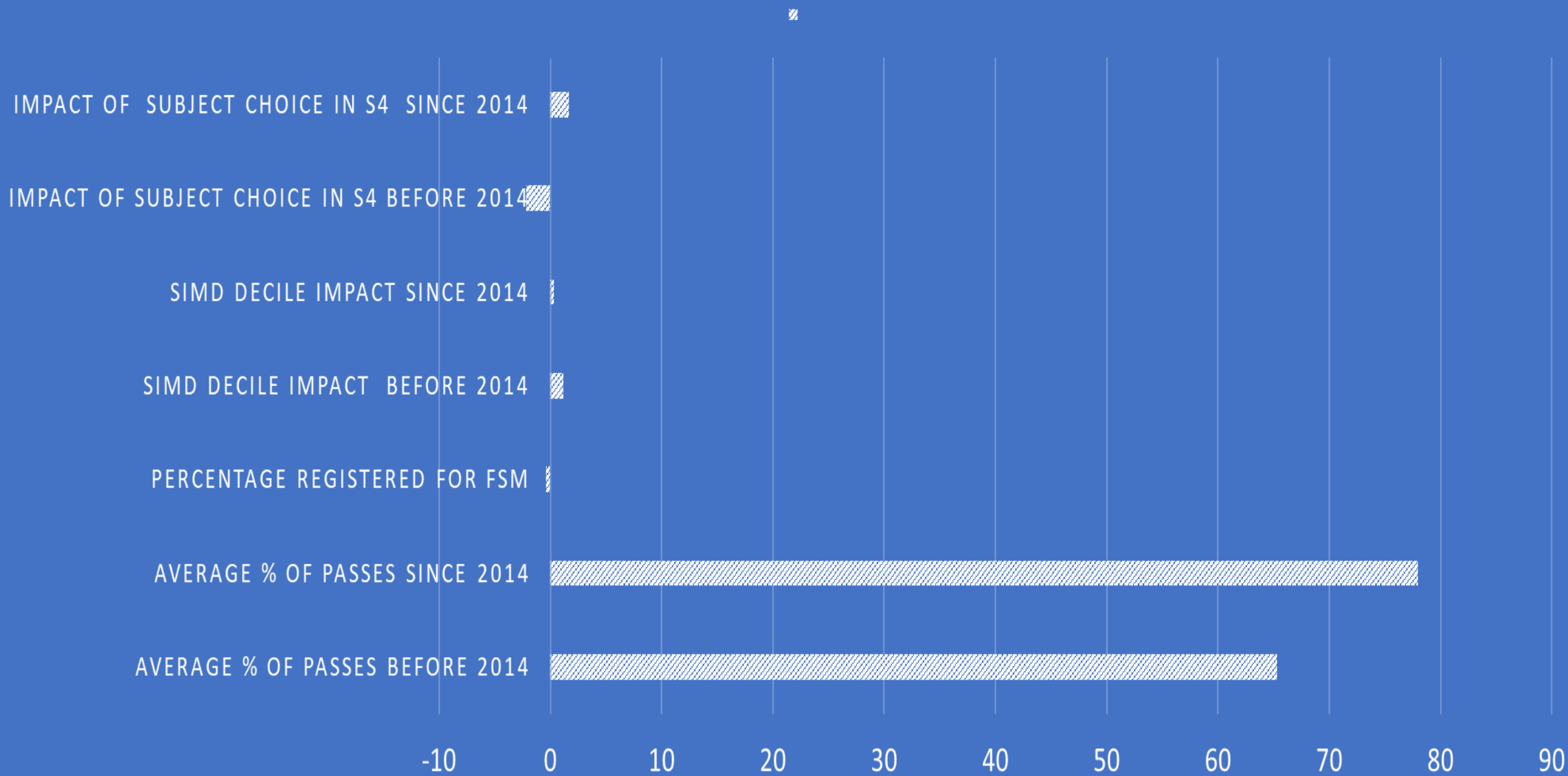
SELECTION BIAS – PREDICTED PROBABILITIES THAT SCHOOL EXPERIENCES 30 OR MORE PERCENT DROP IN THE SUBJECT ENTRIES IN S<sub>4</sub> BETWEEN 2013 AND 2014; ONCE CALCULATED IT IS INCLUDED IN THE REGRESSION MODEL THAT PREDICTS ATTAINMENT AS ONE OF THE INDEPENDENT VARIABLES.



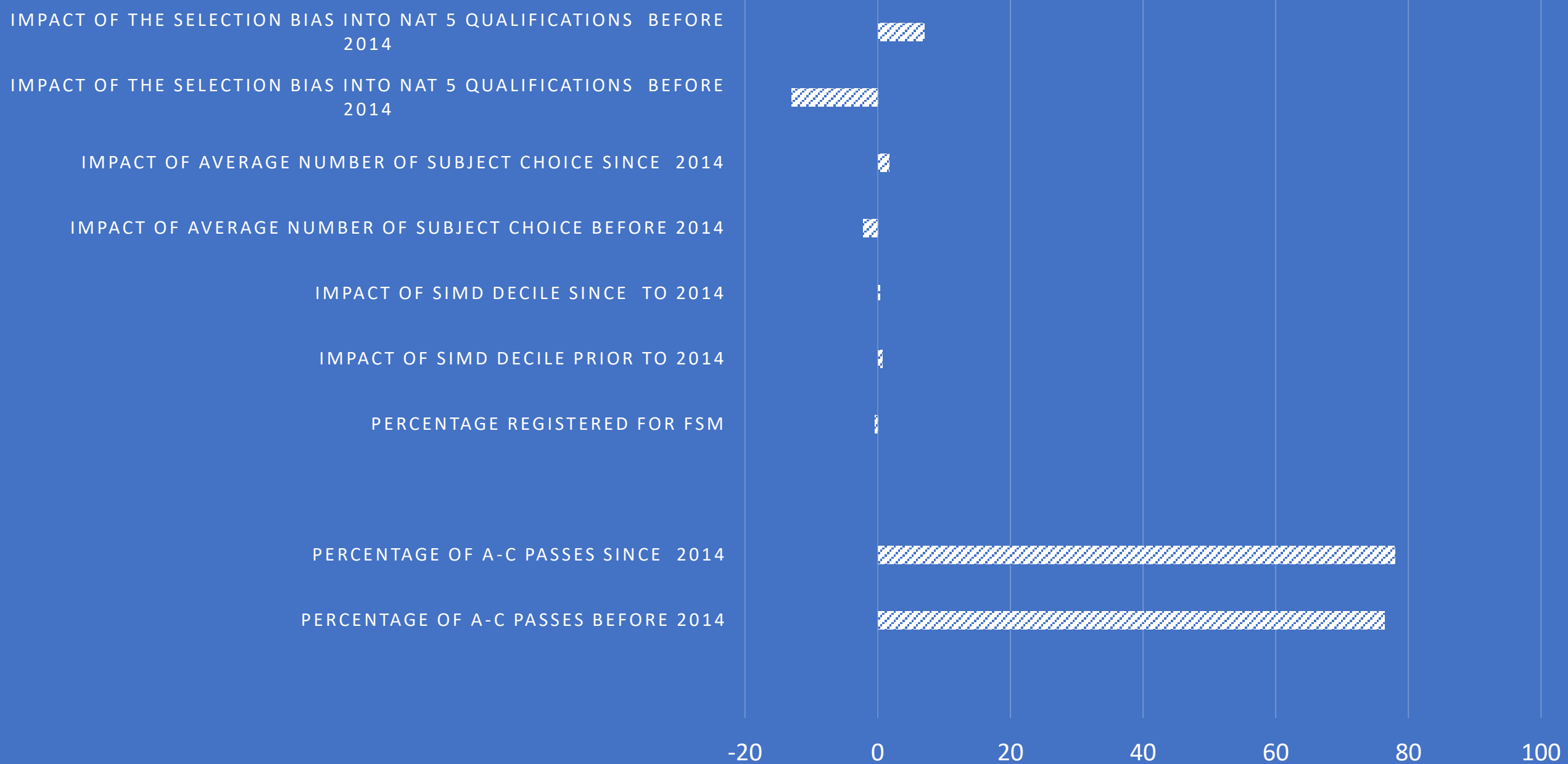
# PREDICTED PERCENTAGE OF A-C PASSES FOR NAT 5 IN S4 BASELINE MODEL



# PREDICTED PERCENTAGE OF A-C PASSES FOR NAT 5 QUALIFICATIONS IN S4 - MODEL WITH INTERACTION TERMS



# PREDICTING PERCENTAGE OF A-C PASSES AT NAT 5 LEVEL IN S4 - CONTROLLING FOR THE SELECTION BIAS INTO NAT 5 QUALIFICATIONS ENTRY



# CONCLUSION 1:

- Controlling for the selection bias into National 5 qualifications in S4 introduced since 2014 reduces the “attainment gap” prior to and before the introduction of new Nat 5 qualifications on 20% point.

Attainment gap in % of A-C passes for Nat 5 in S4		Attainment gap in % of A-C passes for Nat 5 in S4 after controlling for the selection bias	
before 2014	since 2014	before 2014	since 2014
60.0%	82.0%	76.0%	78.0%
22 per points		2 percentage point	

## Conclusion 2.

- After 2014 the percentage of A-C passes for Nat 5 level of qualifications in S4 are less linked to the SIMD decile than before 2014.

## Conclusion 3.

- Importance of number of subject choices made at Nat 5 level in S4 increased since 2014:

Prior to the introduction of new qualifications in 2014 the impact of the number of subject choices in S4 at Nat 5 level of qualifications on the % of A-C passes for Nat 5 level of qualifications was negative. Since 2014 this impact become positive.

# EXAMINING THE RELATIONSHIP[ BETWEEN SUBJECT CHOICE IN A<sub>4</sub> AND ATTAINMENT IN S<sub>5</sub> AND S<sub>6</sub>: A BRIEF SUMMARY

- After 2014
- % of A-C passes in S<sub>5</sub> for Higher qualifications linked positively to subject choice in S<sub>4</sub> in the previous year
- % of A-C passes in S<sub>5</sub> for Higher qualifications linked positively to % of A-C passes in S<sub>4</sub> in the previous year.
- % of A-C passes in S<sub>5</sub> for Higher qualifications linked positively to Higher subject choice made in S<sub>5</sub>.
- % of A- passes in S<sub>6</sub> for Advance Higher qualifications linked positively to Higher subject choice made in S<sub>5</sub>, % of A-C passed in S<sub>5</sub> , and % of A-C passes in S<sub>5</sub> for Higher qualifications 2 years ago.

# THANK YOU!

- Any questions?