The longer the better? The impact of the 2012 apprenticeship reform in England

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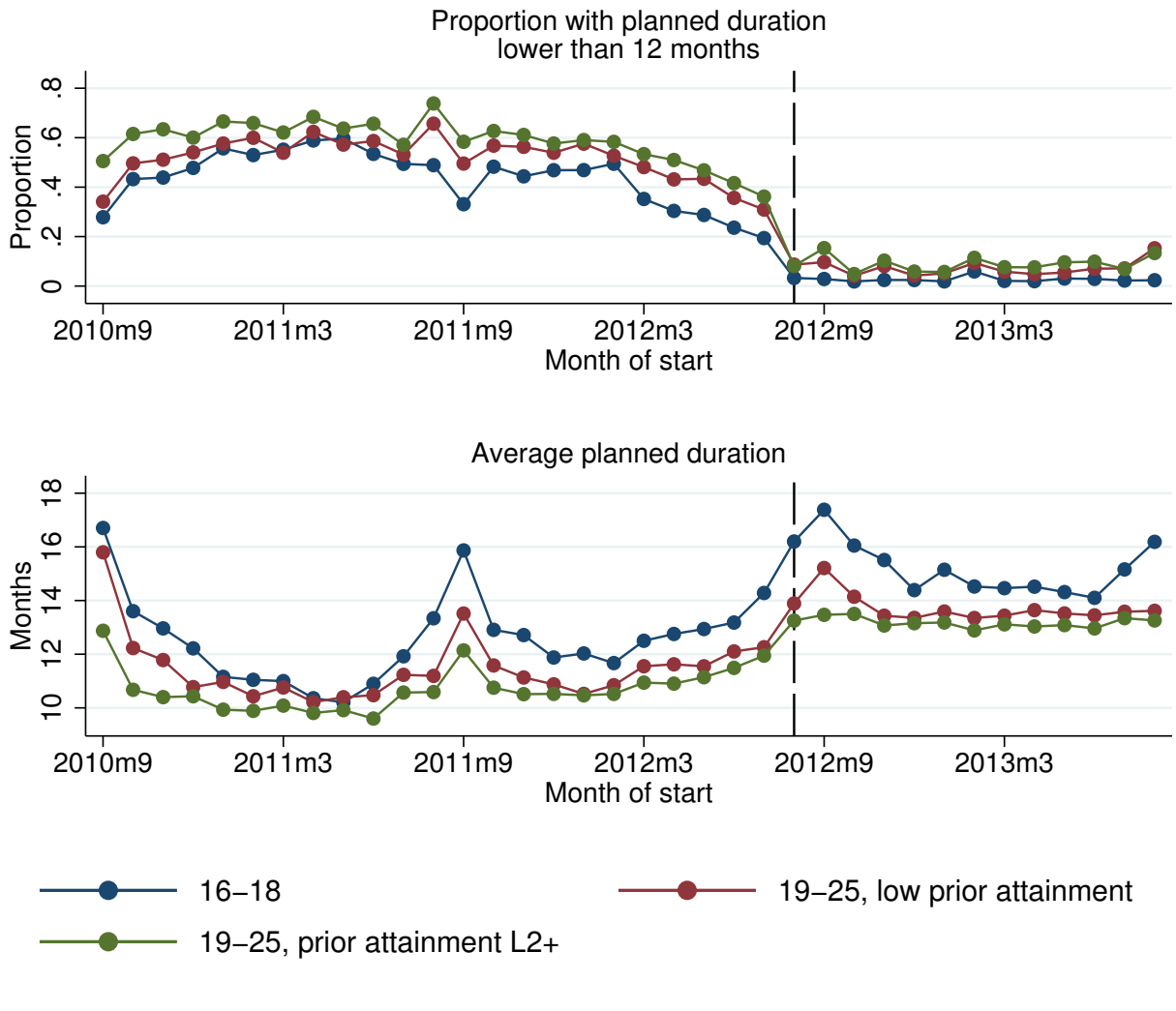
Introduction

- Rapid expansion of Apprenticeships in the late 2000s
  - 2007/08: 151,800 starts of Intermediate and 73,000 Advanced Apprenticeships in England
  - 2013/14: 265,500 Intermediate, 144,000 Advanced
  - 2016/17: 260,700 Intermediate, 197,700 Advanced, 36,600 Higher
- Concerns that some apprenticeships were of very poor quality
  - e.g. television documentary Panorama The Great Apprentice Scandal
- Skills Minister decided to introduce binding minimum standards for all apprenticeships, known as Specification of Apprenticeship Standards for England (SASE)

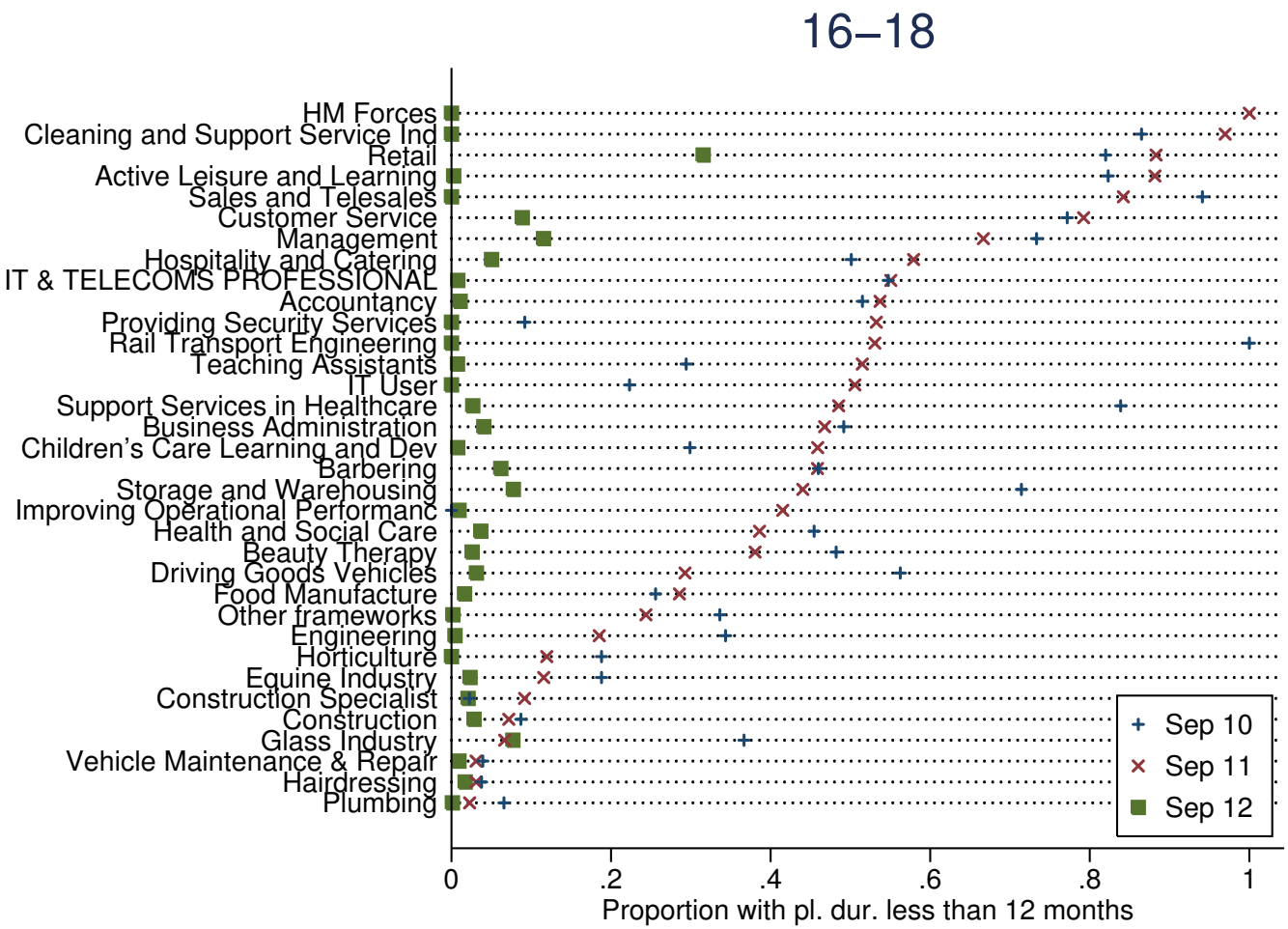
SASE reform

- The Specification of Apprenticeship Standards for England (SASE) came into effect with the beginning of the academic year 2012/13
  - Apprenticeships have to **last for at least 12 months**, except for 19+ learners with prior attainment. If these learners completed Apprenticeships in less than 12 months, then funding would be reduced because less training was required.
  - Apprentices have **at least 280 Guided Learning Hours** (GLH), i.e. structured learning activity in the college or the workplace, of which at least one hundred in colleges or learning providers, i.e. off-the-job.
  - Apprenticeships have **at least 37 credits** on the Qualifications and Credit Framework.

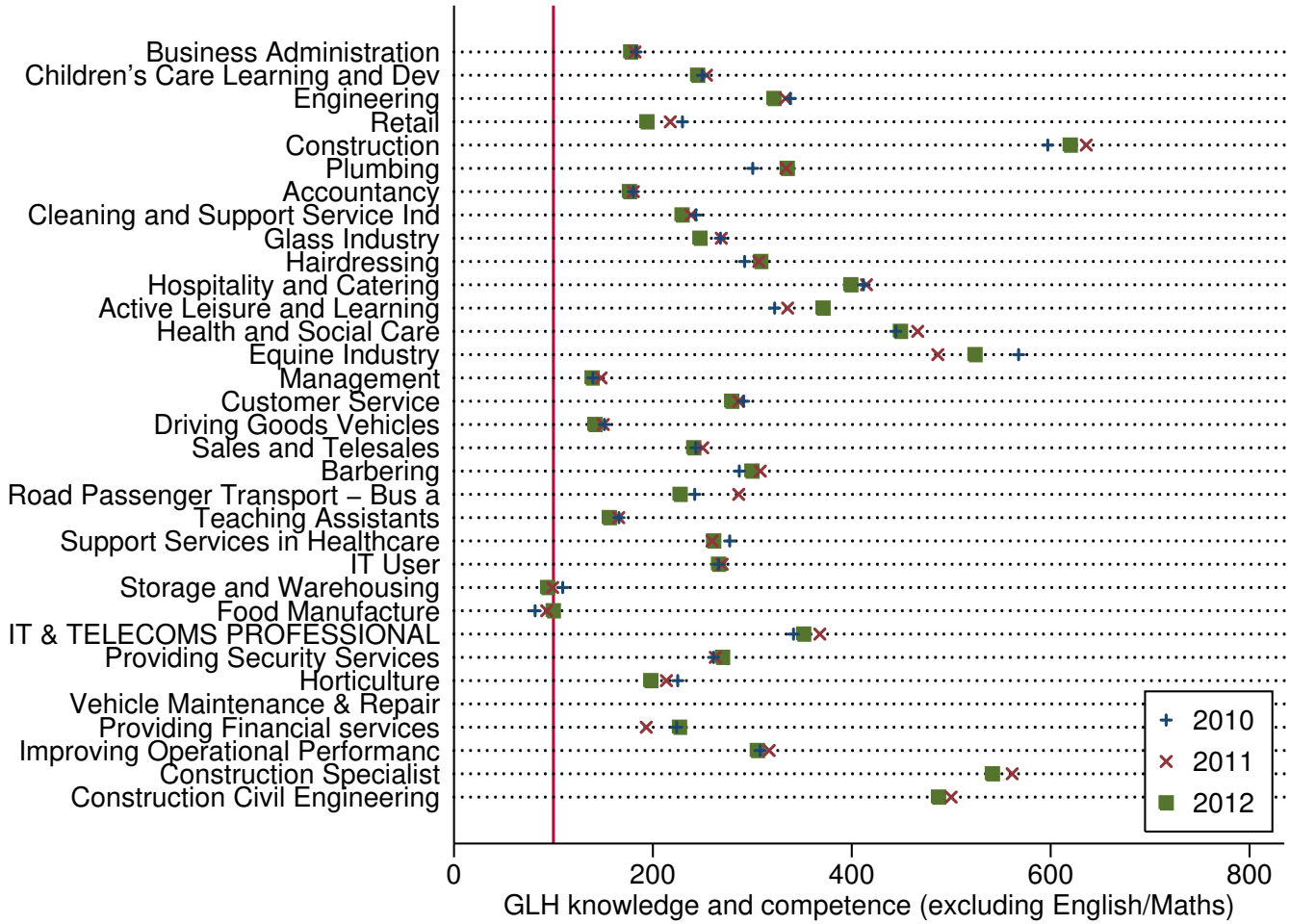
Planned duration by month of start



Duration by frameworks



Change in Guided Learning Hours

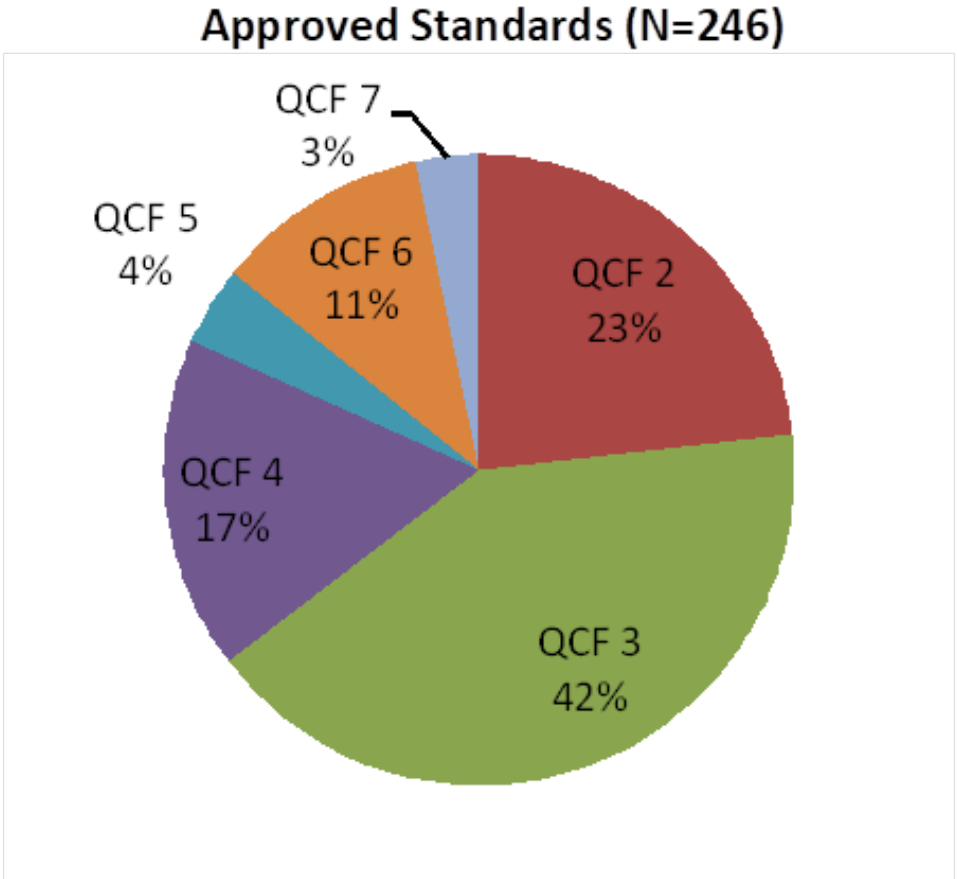


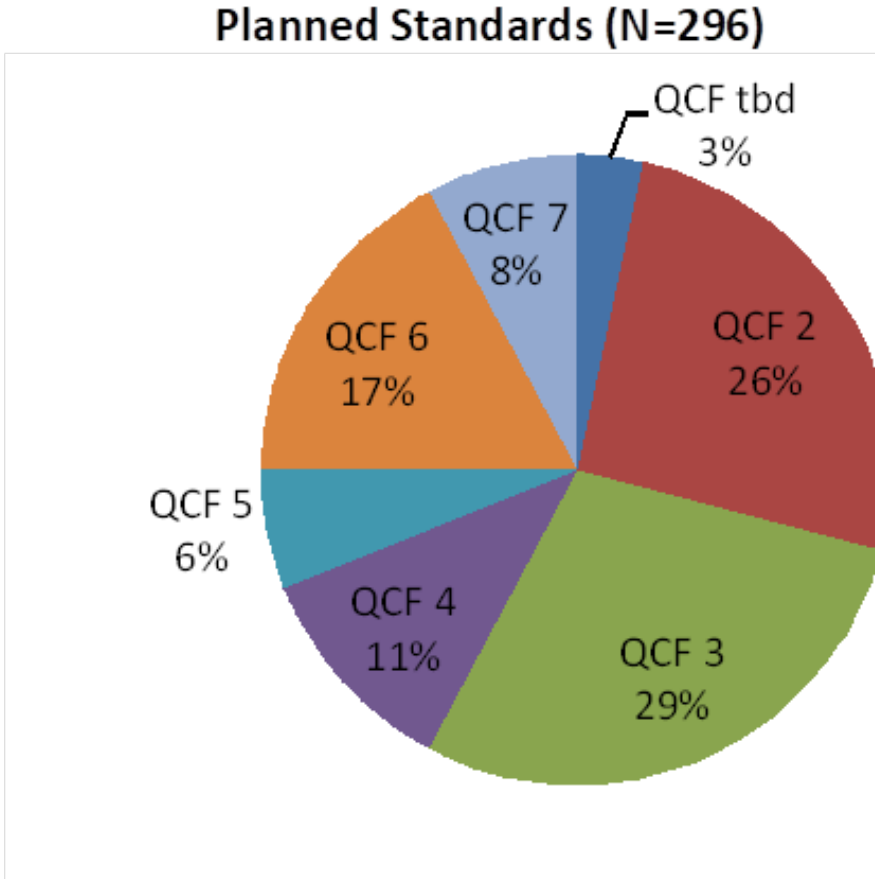
Still relevant?

- Apprenticeships were subject to further changes
  - Growth of Higher Apprenticeships
  - Apprenticeships Standards (employer-led groups create new apprenticeship programmes)
  - Institute for Apprenticeships and Levy (0.5% of the wage bill)
  - Shift from Intermediate to Advanced Apprenticeships
- But about half of all current Standards of Intermediate Apprenticeships still have a planned duration of a maximum of a year
- (Next slides: Characteristics of Apprenticeship Standards)

Emerging Apprenticeship Standards

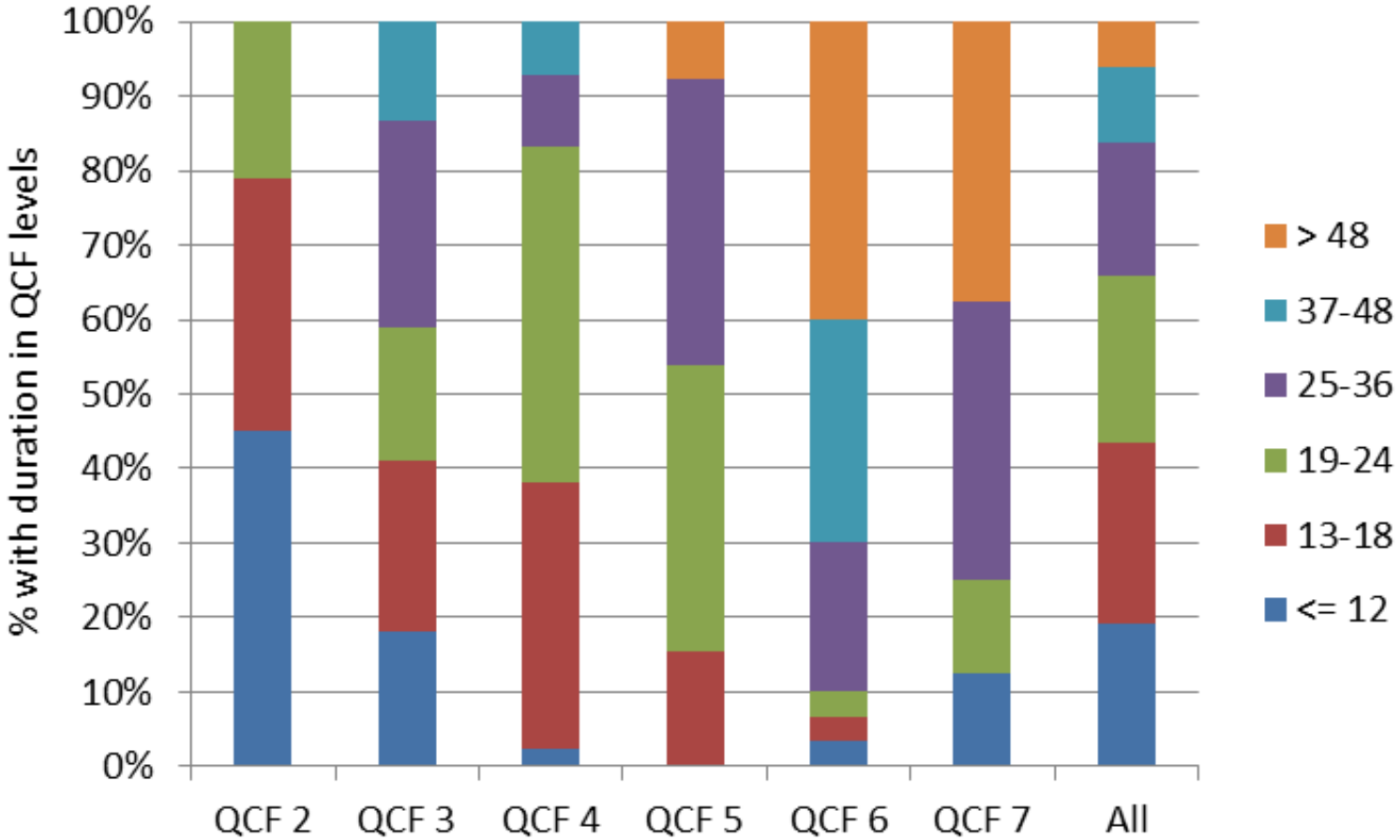
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Source: Institute for Apprenticeship standards, downloaded 26 March 2018

Planned duration of new Standards



Source: Institute for Apprenticeship standards, downloaded 26 March 2018 (based on all approved Standards)

Research Question

- Reform had no effect on GLH but increased the duration of many apprenticeships, in particular in Retail, Hospitality and other services
- Traditional apprenticeships such as Hairdressing, Construction, Plumbing or Vehicle repair and maintenance were not affected
- Is increasing the duration of apprenticeships a good way to improve the quality of Apprenticeship?
- What was the impact of introducing a minimum duration on:
  - Number of starts
  - Achievement rate
  - Employment and earnings

Data

Individualised Learning Records (ILR)

- Extracted apprenticeships started during the academic year 2010/11, 2011/12 and 2012/13 from the unprocessed ILR aims files for the years 2010/11 to 2014/15
- Follow cleaning rules of the Skills Funding Agency
- Censoring issue: we observe completion until March 2015 only
- Focus on Intermediate Apprenticeships started before March 2013

HMRC data

- P45: We derived a monthly employment status
- P14: Annual earnings

HMRC data suffer from several limitations - main issue: low earners are under-reported

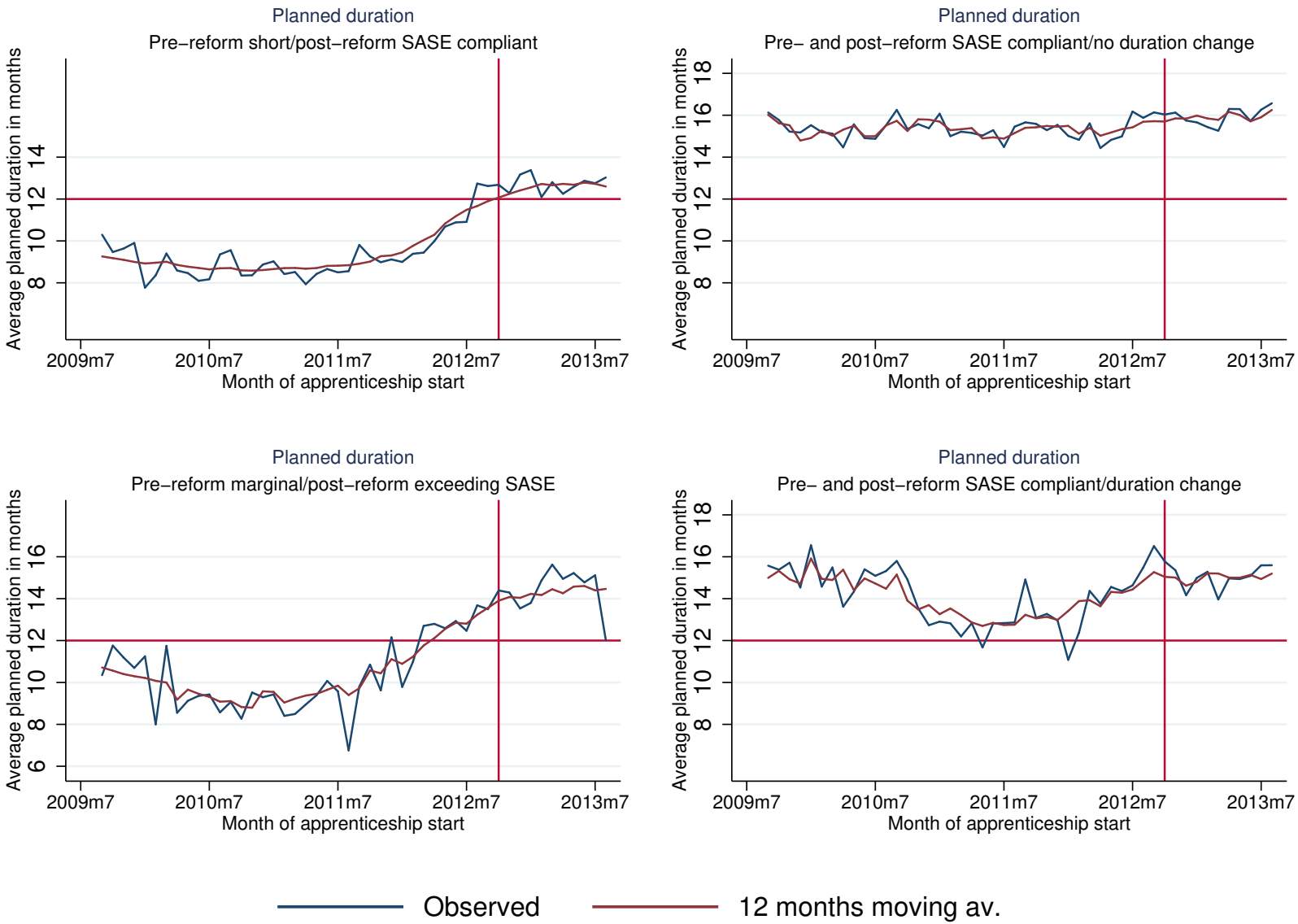
Empirical Strategy

- Compare apprenticeships "frameworks" that were substantially affected by the introduction of a minimum duration to those for which the reform had little impact on planned duration (Difference-in-Differences)

$$y_{i,j,t} = \alpha + \beta D_j \cdot 1(t > Aug2012) + \lambda_j + \delta_t + \mathbf{x}_{j,t}\gamma + \epsilon_{i,j,t} \quad (1)$$

- D_j: Framework affected by the reform a framework
  - Planned duration of Apprenticeships started in Sep. 2012 exceed that of Apprenticeships started in Sep. 2011 by at least two months
  - Planned duration was well below a year in the previous period.
- λ_j, δ_t: sets of framework and month dummies
- $\mathbf{x}_{j,t}$:P vector of individual characteristics (gender, age, ethnicity, disability status, level of prior attainment)
- Control group unaffected by reform (e.g. Hairdressing, Construction Building, Vehicle Maintenance and Repair, Plumbing, etc.)

Parallel trend assumption (I)



Descriptive statistics

Age range	Time	Outcomes	Treatment	Control
16-18	Pre	After 24 months achieved	0.69	0.64
		After 24 months withdrawn	0.26	0.25
		Employed month 30	0.80	0.84
		Annual earnings	9111	10247
	Post	After 24 months achieved	0.56	0.62
		After 24 months withdrawn	0.36	0.25
		Employed month 30	0.87	0.86
		Annual earnings	10718	11296
19-25 Low	Pre	After 24 months achieved	0.65	0.64
		After 24 months withdrawn	0.27	0.26
		Employed month 30	0.88	0.87
		Annual earnings	11707	12980
	Post	After 24 months achieved	0.52	0.59
		After 24 months withdrawn	0.37	0.29
		Employed month 30	0.89	0.88
		Annual earnings	12328	13053
19-25 L2+	Pre	After 24 months achieved	0.70	0.72
		After 24 months withdrawn	0.23	0.21
		Employed month 30	0.92	0.91
		Annual earnings	12911	13709
	Post	After 24 months achieved	0.61	0.67
		After 24 months withdrawn	0.30	0.24
		Employed month 30	0.92	0.91
		Annual earnings	12953	13471

Impact on number of starts

	Reform		Placebo reform	
	(1)	(2)	(3)	(4)
	16-18 Apprentices			
Reform effect	-86.1**	-147.8**	25.0	28.8
	(35.8)	(41.0)	(44.6)	(50.8)
Observations	551.0	551.0	497.0	497.0
R2	0.7	0.7	0.7	0.7
Mean outcome	122.3	471.1	136.6	523.2
	19-24 Apprentices with low prior att.			
Reform effect	-10.5**	-29.8**	1.0	14.2
	(9.2)	(12.5)	(7.1)	(8.4)
Observations	479.0	479.0	454.0	454.0
R2	0.9	0.8	0.9	0.9
Mean outcome	62.7	220.6	56.7	206.2
	19-24 Apprentices with L2+ prior att.			
Reform effect	-33.9**	-102.6**	1.3	7.1
	(12.2)	(17.1)	(8.8)	(10.5)
Observations	503.0	503.0	434.0	434.0
R2	0.9	0.8	0.9	0.9
Mean outcome	78.8	305.0	71.9	272.6

Standard errors in parentheses, *5%/**1% levels of significance. Models include month and framework fixed effects; (2) and (4) weighted using the total number of starts by framework over the period Sep 2009-Aug 2013; Source: Individualised Learner Records, 2010/11-2012/13

Impact on individual-level outcomes

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	(1) Achievement within 24 m	(2) Withdrawal within 24 m	(3) Employed 30 after start	(4) Log Annual Earnings 2 y. later
	16-18 Apprentices			
Reform effect	-0.102**	0.087**	0.039**	0.127**
	(0.009)	(0.008)	(0.005)	(0.021)
Observations	67,034	67,007	61,410	37,265
Pseudo-R2/R2	0.051	0.033	0.043	0.083
Mean outcome	0.631	0.267	0.843	10,212.6
	19-24 Apprentices with low prior attainment			
Reform effect	-0.073**	0.050**	0.005	0.069**
	(0.012)	(0.011)	(0.008)	(0.023)
Observations	29791	29780	28023	22726
Pseudo-R2/R2	0.035	0.028	0.038	0.067
Mean outcome	0.603	0.300	0.878	12,487.8
	19-24 Apprentices with L2+ prior attainment			
Reform effect	-0.044**	0.029**	0.000	0.029
	(0.010)	(0.009)	(0.006)	(0.016)
Observations	39467	39467	37338	33201
Pseudo-R2/R2	0.031	0.019	0.023	0.057
Mean outcome	0.676	0.242	0.915	13,245.5

Robust standard errors in parentheses, *5%/**1% levels of significance. Apprenticeships started between Sep. 2012 and Feb. 2013. Models with further covariates. Source: Individualised Learner Records, 2011/12-2012/13

Interpretation

- Increase in duration had adverse effect on number of starts and achievement of Intermediate Apprenticeships: As apprenticeships last longer, learners have greater chances to find another better paid job and to drop out from the apprenticeship
- But the reform improved medium-term labour market outcomes
- This is likely to result from a variety of mechanisms
  - Adverse effects on apprenticeship starts reduce the number of people not ready for work to start apprenticeships (e.g. effect to stay in college until ready for apprenticeship)
  - The smaller number of achievers benefit from higher wage returns
  - Extended duration improves job matching for both stayers and drop-outs (i.e. apprenticeships improve recruitment and job matching for firms and individuals)