

# Fighting 'FREE'

## The new open access debate is in education

September 11, 2013

<b>Relative rating</b> Remains	<b>Reduce</b>
<b>Target price</b> Reduced from 1195	1100p
<b>Closing price</b> September 6, 2013	1291p
<b>Potential downside</b>	-14.8%

### Reducing target price for the risk to the print business

We are lowering our target price on Pearson to 1,100p, offering c16% potential downside from current levels. We now assume that c25% of the print business in North American Education and International Education will be eroded through a combination of price pressure, rental and free or near-free replacements. The education market is shifting now at an increasing pace towards digital in school, college and consumer, and although this brings opportunities for Pearson, such as selling integrated services, educational software and professional development, it also brings risks to the previously protected (and over-priced) print core. We now reflect this risk in our longer-term revenue growth rates as we believe it will build over time. Pearson has the highest print exposure of any of the publishers in our coverage universe at c50%.

### Adding OER to the list of concerns

There is a well-established list of concerns that remain key for us, including a high valuation with a premium to Reed and other publishers, risks to the forecast rebound in organic growth, the impact of the growth in rental, pressure on college enrolments and education funding, transition economics that hurt the P&L, possible further reinvestment and restructuring charges and a low ROIC, and a lower-than-expected cash conversion. Open access (OER) in education is not new, nor does it have significant usage, but is gaining some traction and increasing quality through additional funding and philanthropic and government and state sponsorship. It is free or close to free for the user, but has significant costs to develop. Faculty are still split, but if OER quality continues to improve, it should increase adoption and exert price pressure on expensive books.

### Education is not the music or directory industry

The education transition to digital is more nuanced than the media horror stories. In our view, OER will not cause a collapse, but print has been too expensive and too big for too long.

Year end: 12-2012	2012a	2013e		2014e		2015e	
Currency GBX	Actual	Old	New	Old	New	Old	New
<b>Revenue (m)</b>	6112	5467	5467	5648	5648	5849	5849
<b>PTP (m)</b>	884	803	803	918	918	1029	1029
<b>EPS (p)</b>	84.17	76.15	76.15	86.55	86.55	97.00	97.00
<b>DPS (p)</b>	45.0	48.2	48.2	51.5	51.5	55.4	55.4
<b>P/E (x)</b>	15.3	N/A	17.0	N/A	14.9	N/A	13.3
<b>EV/EBITDA (x)</b>	10.6	N/A	11.3	N/A	9.9	N/A	8.8
<b>Dividend Yield (%)</b>	3.5	N/A	3.7	N/A	4.0	N/A	4.3

Source: Company data, Nomura estimates

**Key company data:** See page 2 for company data and detailed price/index chart.

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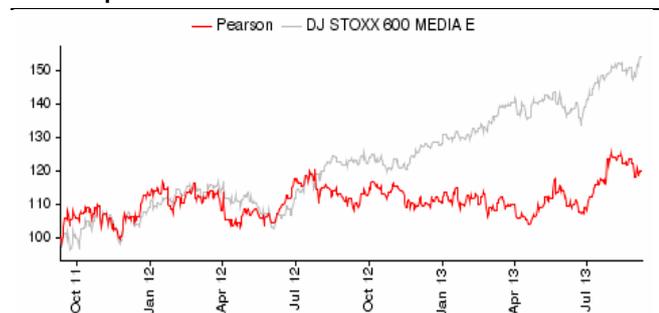
See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

# Key data on Pearson

## Rating

Stock	Reduce
Sector	Neutral

## Relative performance chart



Source: Thomson Reuters, Nomura research

## Performance

Year end:12-2012	1m	3m	12m
Absolute %	-3	10	7
Rel. Sector %	-2	-3	-24

## Market data

Market Cap (m)	10454.52
Shares Outstanding (m)	809.8
Dividend Yield (current yr.)	3.49

## Financial summary

Five Yr. EPS CAGR (%)	N/A
Return on Equity FY12 (%)	N/A
Current BVPS (p)	N/A
Net Debt (m current)	-918.00

Source: Thomson Reuters, Nomura research

## Income statement GBPM

Year end Dec	2012A	2013E	2014E	2015E
Revenues	6,112	5,467	5,648	5,849
EBITDA	1,070	1,007	1,124	1,235
EBITA	936	868	980	1,087
PTP	884	803	918	1,029
Net income	677	611	695	779
Recurring EPS	84.2	76.1	86.5	97.0
EPS growth	-3%	-10%	14%	12%
DPS	45.0	48.2	51.5	55.4

## Cash flow statement GBPM

Year end Dec	2012A	2013E	2014E	2015E
Change in working cap	-100	-24	-38	-42
Cash from operations	1,201	1,386	1,503	1,625
Capital expenditure	-156	-150	-155	-161
FCF (post-capex)	541	577	650	729
Net acquisitions/disposals	-766	-150	0	0
Share buyback/issuance	11	0	0	0
Dividends	-346	-387	-414	-445
Opening net cash/(debt)	-499	-918	-997	-760
Change in net cash/(debt)	-419	-79	237	285
Closing net cash/(debt)	-918	-997	-760	-476

## Valuation

Year end Dec	2012A	2013E	2014E	2015E
P/E	15.3	17.0	14.9	13.3
Dividend yield	3%	4%	4%	4%
FCF yield (FCF/mkt cap)	5%	6%	6%	7%
EV/EBITDA	10.6	11.3	9.9	8.8
EV/EBITA	12.1	13.1	11.4	10.0
EV/Sales	1.9	2.1	2.0	1.9

## Key ratios

Year end Dec	2012A	2013E	2014E	2015E
Revenue growth	4%	-11%	3%	4%
Operating margin	15%	16%	17%	19%
Adj net debt/EBITDA	0.9	1.0	0.7	0.4
Adj net debt/equity	-0.2	-0.2	-0.1	-0.1
ROCE	11%	10%	11%	13%

Source: Company data, Nomura estimates. Price from Datastream at close on 6 September 2013.

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## Summary

Pearson has become a controversial stock as it navigates a complex transition between digital and print. Education, a conservative industry, is finally feeling the winds of technological change. It has been one of the last industries to be transformed by digital and the internet owing to a combination of factors: a) lack of affordable e-readers and willingness to spend on classroom technological infrastructure; b) conservatism and fragmentation among faculty, c) lack of common educational standards; and d) a oligopolistic structure among the publisher providers of materials, with six big companies dominating the market (c90% of production) all with a strong incentive to keep prices high both for printed textbooks and e-books. This is changing now at a rapid pace, and although print books have a very high share in materials both in school and college (over 90%) this is set to change considerably over the next few years. Pearson has already made more progress in digital and services than its peer group publishers, such that about 50% of North American Education and International Education are composed of digital and services. Pearson has already layered on additional products in homework (MyLabs), college course management (e-college/Embanet), and competency-based learning (CBL). In schools, Pearson has added Schoolnet (testing and curriculum integration), Powerschool (teacher information systems) and virtual schools (Connections).

### The bear case

The first thing to say is that a cautious view on the stock does not rely on OER being successful. There was nothing in our previous model for OER impact, and our valuation was still around 1,200p, indicating modest downside. The main issues we see are as follows.

#### High valuation

In 2014E, the stock trades at close to a P/E of 15x, a year in which restructuring charges are neutralised by cost savings and around 13x in 2015E when the company is benefitting from GBP 85m in cost savings and where we and consensus assume no further restructuring charges. 2012-15E EPS CAGR is c5%. These are c10% and c6% premiums to Reed. On P/FCF, this premium rises to 20% in both years. This is being paid for assumed growth in 2014 and 2015 of around 3%, no different from many of the other publishers.

Fig. 1: Professional Publishers valuation

Company	Rating	Price		PE		EV/ Sales		EV / EBITDA		Div Yld	
		Target	Close	2013E	2014E	2013E	2014E	2013E	2014E	2013E	2014E
Experian(Calendar)	Buy	1215p	1158p	20.5x	18.8x	4.2x	3.9x	12.6x	11.4x	2.0%	2.2%
Informa	Buy	600p	528p	12.9x	12.0x	3.4x	3.1x	10.4x	9.6x	3.7%	3.9%
Pearson	Reduce	1100p	1291p	17.0x	14.9x	2.1x	2.0x	11.3x	9.9x	3.7%	4.0%
Reed Elsevier plc	Buy	900p	807p	14.7x	13.7x	3.3x	3.2x	10.1x	9.4x	3.2%	3.4%
Thomson Reuters Corp	Neutral	\$32.0	\$33.9	18.7x	16.7x	2.6x	2.5x	9.9x	9.2x	3.8%	4.3%
UBM	Buy	860p	722p	13.9x	13.2x	2.9x	2.8x	11.9x	11.4x	3.7%	3.9%
Wolters Kluwer	Neutral	€16.5	€18.7	11.9x	11.2x	2.1x	2.0x	8.3x	7.6x	3.8%	4.0%
<b>Average</b>				<b>15.7x</b>	<b>14.4x</b>	<b>2.9x</b>	<b>2.8x</b>	<b>10.6x</b>	<b>9.8x</b>	<b>3.4%</b>	<b>3.7%</b>
<b>Average (ex Experian)</b>				<b>14.8x</b>	<b>13.6x</b>	<b>2.7x</b>	<b>2.6x</b>	<b>10.3x</b>	<b>9.5x</b>	<b>3.6%</b>	<b>3.9%</b>

Note: Close price as on 06 Sept, 2013

Source: Nomura estimates, Thomson Datastream

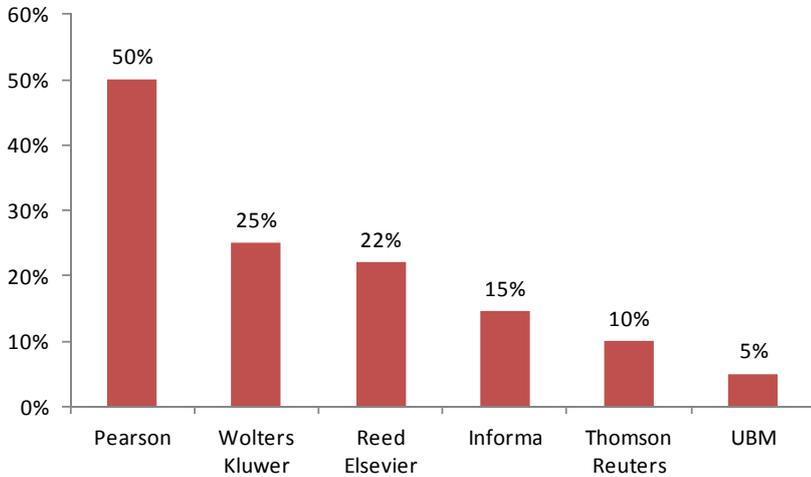
#### Risk to organic growth

Consensus already assumes a rebound in organic growth to 3-3.5% for 2014 from c1% in 2013. This compares with 1% in 2011 and -1% in 2012. This is related to the end of delays to Common Core in school and a turnaround in college from (in our model) -2% to 2%. It is also assumed that growth in International will improve slightly from 5% to 6% and in FT (from 0% to 2%). About half of the turnaround in college is automatic and relates to the Embanet acquisition (high growth), which should have cGBP 160m of revenue and be growing at c20-30% in 2014. We believe there is some risk to the level of accelerated growth for Pearson owing to funding and enrolment issues in college as well as the growth of book rental and impact of OER.

**High print exposure**

Of all of the main publishers Pearson has the highest print exposure at c50%. As we have noted, the education publishers have up to now been more protected than other media industries, partly owing to the lack of electronic devices and formats for textbook consumption, but this is now changing, and the pace of change is accelerating. This is made more problematic by the fact that school books, and especially college books, are seen as expensive and over-priced.

**Fig. 2: FY2012 print exposure**



Source: Company data, Nomura estimates

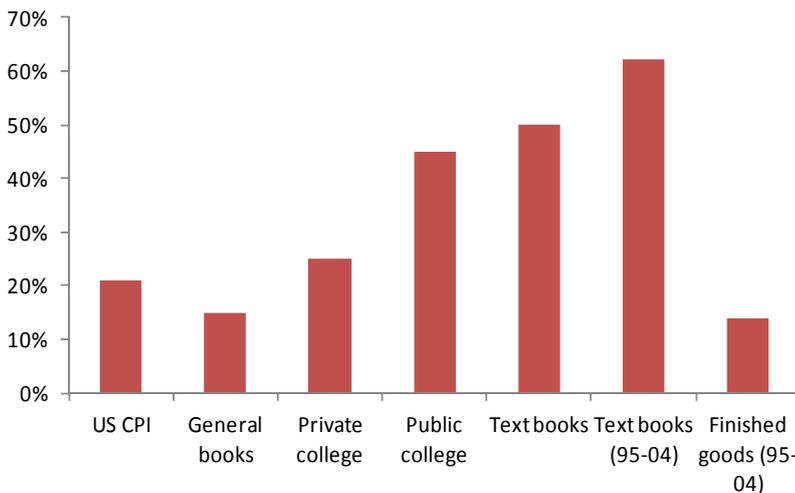
**OER offering “free” alternatives in textbooks and tools**

OER – Open Educational Resources – offers free or low cost (sub-USD 20) textbook and tools content. In extremis, it could be the case that the textbook will become commoditised, and only services such as homework, learning tools and testing will still be charged. This will likely not happen overnight. The expensive hard-copy textbook is likely to die out over time, either replaced by OER, or with its content incorporated into a publisher service model.

OER are not new, having been around for over a decade. Although OER usage is still less than 5%, it is gaining traction in both school and college for several reasons:

1) Increased pressure in the last few years on student and state budgets have coincided with continuing high prices and above-inflation increases in the cost of textbooks (4x the rate of inflation, and with each new edition 12% more expensive that the last).

**Fig. 3: Growth (2002-12) in textbooks and tuition more than double inflation**



Source: US CPI detailed report December 2012, PIRG, Chegg

- 2) Funding has improved, especially from the Hewlett and Gates Foundations.
- 3) Increasing quality has begun to break down negative or neutral perceptions among faculty and directors of education. The Babson 2012 survey "Growing the Curriculum" showed 57% of chief academic officers believed OER had value for their college, less than 5% actively disagreed, and 65% agreed it could save the college money. The 2009 Berkeley Study on faculty attitudes, even though it was conducted when OER were less advanced and not as high quality as now, found that 95% of faculty would be willing to assign an OER textbook if the quality and content matched a traditional book. In a California study in 2012 on the use of OER, all the faculty said the OER books matched the quality of traditional books, and all said they were likely to use the open books again.
- 4) Some states have shown OER adoption can work, such as Utah, or to a lesser extent Washington.
- 5) There is increasing local and federal government interest in funding OER to lower costs and increase flexibility, so we are likely to see further initiatives and announcements in this direction.
- 6) OER allow flexibility in the tailoring and combination of textbook and course materials in an online setting, and allow localisation and increased speed, rather than waiting for textbook companies to correct errors or change material. Increasingly, OER organisations are beginning to provide testing and learning tools as well as just textbook or course material.
- 7) There is a limited, but growing, body of evidence on something that was holding back OER adoption, the efficacy and demonstration of its ability to help students. It should be noted that most of the literature on efficacy both for and against OER is held back by limited sample sizes, but this is also likely to change. The OER science project in Utah (OTOT) published results from state Criterion Referenced Tests (CRTs) showing about 50% shaved of the cost of books with no negative outcome on test results. A later piece of research covering 4,000 students showed students using OER outperforming those using traditional textbooks, even controlling for age, gender and socio-economic status and a host of other factors.

In Utah, it was estimated that for a limited district covering only 10,000 students the OER saving on science alone over a textbook cycle could be cUSD 2m and Openstax/Connexions is aiming to save students cUSD 750m over a five-year period if they manage a full deployment of textbooks. This is probably too large a figure to be achieved, but one of the impacts of OER, if the quality is high enough, is likely to be price pressure on the content part of the traditional publisher service model in school and price pressure on college books, to go in tandem with other constraints such as rental and chapter unbundling.

The 20 Million Minds Foundation (20MM) estimated the average annual book cost for California undergraduates at USD 1,600 vs a national average of USD 1,260. It estimated that potential annual saving in California by switching to open textbooks at USD 162m compared with an annual cost at the moment of USD 186m. 20MM pointed out that the average grant of USD 1,342 for books and living expenses left only around USD 80 for living expenses.

### **Challenges for OER**

It should be acknowledged that OER advocates face three challenges:

- 1) Will the funding from big foundations and government continue, as this is what allows it to be "free"? The fact that these materials are free or close to free to use, but not free to produce was well highlighted by Susan Twigg from the National Centre for Academic Transformation in an article "*There is no such thing as a free lunch*". This points out that the Hewlett and Gates Foundations have spent hundreds of millions of dollars on OER and that the Obama Administration is proposing to spend at least USD 0.5bn on OER.
- 2) How can OER providers or education technology start-ups provide the fully-integrated solutions (content, tools, technology infrastructure, testing, teacher training, etc.) that schools and colleges receive from the major publishers)? We see this as quite a big issue for schools. It could be less of an issue for colleges as long as the quality of the

OER texts and courses are high enough and link to institutional standards. The Pearson JV with Apple in LA is interesting in a number of ways. The first is that Apple wanted to go with free OER content, the second is that the district insisted it use material from a traditional publisher with a tried and tested record. A lot comes down to how OER can be made of sufficient quality to get to a point where a partnership with Apple or similar company will be accepted by the educational institutions.

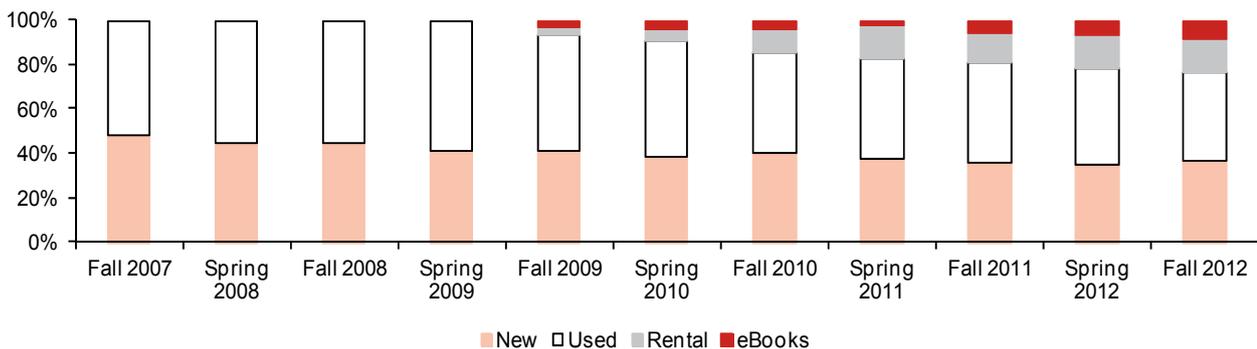
3) The third issue is that the OER producers do not have the large sales forces of the traditional publishers. This means OER has to be implemented mainly through legislation, faculty/institutional advocacy or going direct to students (college only).

**Rental**

Rental is continuing to make progress, and is now c20% of the college book market. It is typically at 20-30% of the cost of a new book for 6-12 months. We estimated it was lower margin than the mid-20s made on a new hard-copy book and hence negative for revenue and margins if it cannibalises mainly the new book market rather than the used book market. Physical rental will later on boost the used book market, but e-rental, while negative for the publishers, will have a side benefit of not feeding the used book market from which the publishers derive no revenue. Popular rental sites include Chegg, Half.com (eBay), Amazon, Big Words and Valore Books. Often bookstores offer rental. Recently, Barnes & Noble (B&N) in Boston University said its students spent USD 2.2m less at B&N in the past academic year alone.

A recent survey of 500 students by Coursesmart found 66% of respondents used etexts frequently (even though print still dominates) vs 53% in 2012 and 43% in 2011. Some 55% of surveyed students said e-textbook use would outweigh print in 10 years; 17% said only etexts would be used in 10 years; 7% said print textbooks would remain dominant.

**Fig. 4: Evolving student buying behaviour for college**

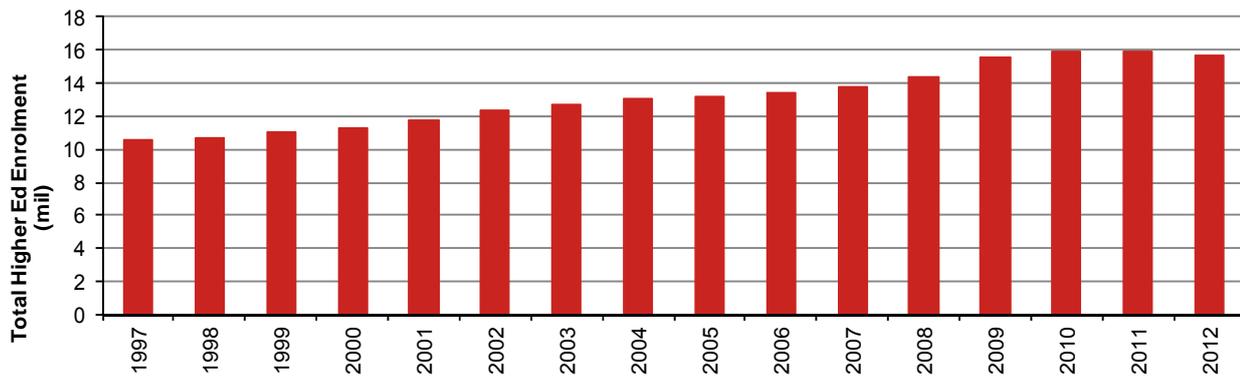


Source: Student Monitor, Nomura research

**College enrolment still under pressure, state funding still under pressure**

Owing to immigration, the long-term trend in college enrolment is still likely to be up. However, the major boost in enrolments that the publishers benefitted from in 2009 and 2010 as the recession hit is now unwinding as the economy improves. For 2012 and 2013, college enrolment is down c2% per year. Budgets at the state level have improved, but education funding is still under pressure, and resources are being prioritised for Medicaid (old people vote more). The Centre on Budget and Policy Priorities shows that states' spending on higher education fell by 28% during 2008-13, placing a bigger burden on students, parents and student loans. The CFPB has said there is now over USD 1trn of student debt, larger than all the credit card debt in the US.

**Fig. 5: Enrolment trends**



Source: Cengage, National Centre of Education Statistics, Nomura research

**Transition economically unfavourable for revenues and earnings**

The analogue to digital transition hits the P&L in four ways:

- 1) A move to subscription sales turns a USD 75 school book sale into a USD 12.50 sale. Volume discounts turn this into a USD 10 sale.
- 2) Sales of access over a period of time go into deferred revenue, eg, MyLabs.
- 3) Lower analogue volumes can hit margins as lower volume flows through analogue infrastructure. This infrastructure (warehouses/distribution channels) has to be reduced, which incurs costs.
- 4) Investment has to be made in digital content and digital platforms.

Points three and four do affect cash flow, but points one and two do not. Cash should be improved in digital through lower (physical) stock.

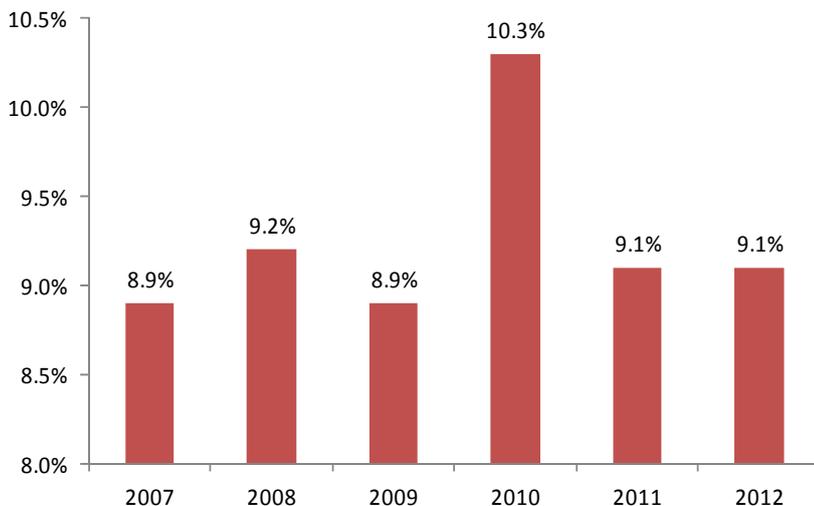
**Restructuring charges are unlikely to have finished**

Consensus is basing its 2015 valuation on an EPS that includes no restructuring charges, but only includes the benefit of cost savings from costs incurred in 2013 and 2014 (GBP 200m of restructuring cost and GBP 50m of reinvestment). Pearson has had restructuring costs for many years, and with the need to adjust physical and analogue infrastructure and possibly engage in more reinvestment it is plausible that we have not seen the end of such expenditure.

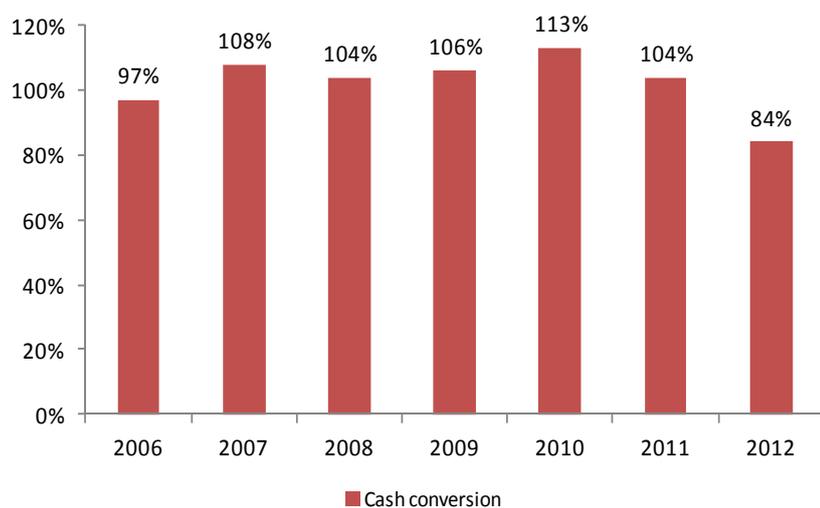
**Low ROIC/ROCE**

The company has relatively low ROIC/ROCE and cash conversion has declined despite a significant fall in working capital to sales.

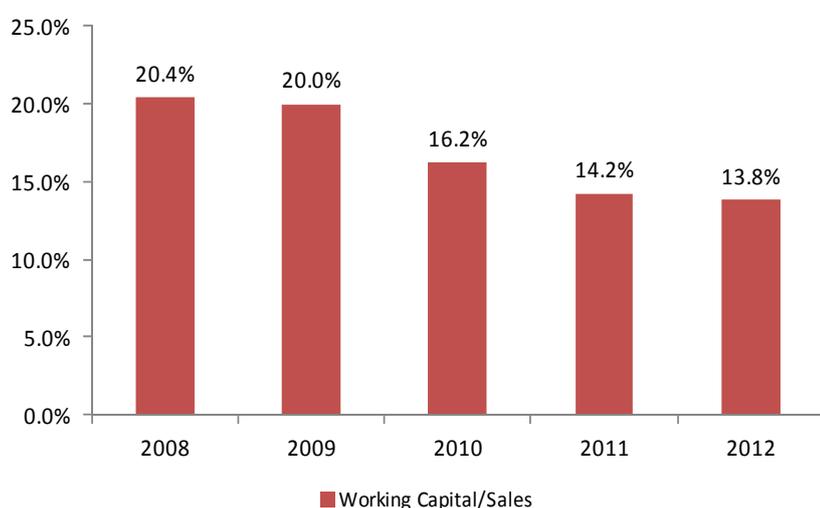
**Fig. 6: ROIC**



Source: Company data, Nomura research

**Fig. 7: Cash conversion**

Source: Company data, Nomura research (2012 affected by longer debtor days and pre-pub and tech investment)

**Fig. 8: Working capital/sales**

Source: Company data, Nomura research

The ROCE is also low on our numbers, and compares unfavourably with that of Reed. Reed's higher valuation on EV/CE is amply justified, in our view, by its higher ROCE/cost of capital. Pearson assumes it has a very low cost of capital, but for all our stocks we adjust cost of capital to ensure current low risk free rates revert to historical norms.

**Fig. 9: ROCE to CE and cost of capital comparison**

<b>Pearson</b>	<b>2012A</b>	<b>2013E</b>	<b>2014E</b>	<b>2015E</b>
ROCE	7.8%	7.2%	8.0%	8.8%
EV/CE	1.22	1.24	1.20	1.15
ROCE/CoC	0.8	0.8	0.8	0.9
<b>Reed</b>	<b>2012A</b>	<b>2013E</b>	<b>2014E</b>	<b>2015E</b>
ROCE	18.4%	19.9%	20.5%	21.8%
EV/CE	3.12	3.16	3.06	3.04
ROCE/CoC	1.9	2.1	2.2	2.3

Source: Nomura estimates

## Valuation changes

The structural changes in the education industry are likely to have an impact on the print businesses of the publishers. We think it is unlikely that there can be a smooth transition where the economic rents generated by hard-copy textbooks can be moved on a one-for-one basis into the content part of the service model. Pricing pressure is bound to occur even where OER is not adopted. We show three scenarios for the impact on terminal revenue. We assume that c25% of the print revenue within North American Education and International Education could be affected either by: 1) price pressure in the analogue to digital transition; 2) rental; or 3) through OER replacement; or a mixture of all of these factors.

There is no industry consensus on the pace of this change or on the ultimate impact of this change. We do not feel the examples of either the music industry (piracy/unbundling) or directory industry (search engine erosion) are directly analogous or provide a good guide in terms of percentage impact. We have assumed that the combined impact of structural change will affect 25% of the current print revenue. For North American Education, this implies a longer-term growth rate of 1% until print is stopped, and for International Education, it implies a growth rate of 3% until print is stopped. Put another way, it implies print declines at c4% if non-print grows at 5% for North American Education. This compares with current print declines at companies such as Reed and Thomson Reuters of mid-high single digits.

**Fig. 10: Valuation based on structural impact on print**

Terminal sales impact (% impact on print)	50%	25%	10%
Terminal sales impact (% impact on whole division)	25%	13%	5%
North America Education sales change	-25%	-12%	-5%
North America Education EBITA change	-25%	-12%	-5%
International Education sales change	-25%	-12%	-5%
International Education EBITA change	-25%	-12%	-5%
Group sales change	-21%	-10%	-4%
Group EBITA change	-21%	-11%	-4%
DCF (p)	1010	1100	1150

Note: Terminal year 2030

Source: Nomura estimates

## Risks on international acquisitions

Not all acquisitions work out. Pearson has been highly acquisitive. The vast bulk of international revenue growth from the start of 2010 has been through acquisitions. The regulatory issues around the sellers of the Global Education business in China and the failure of the Melorio acquisition, which had closure costs of GBP 113m are reminders of acquisition risk at Pearson.

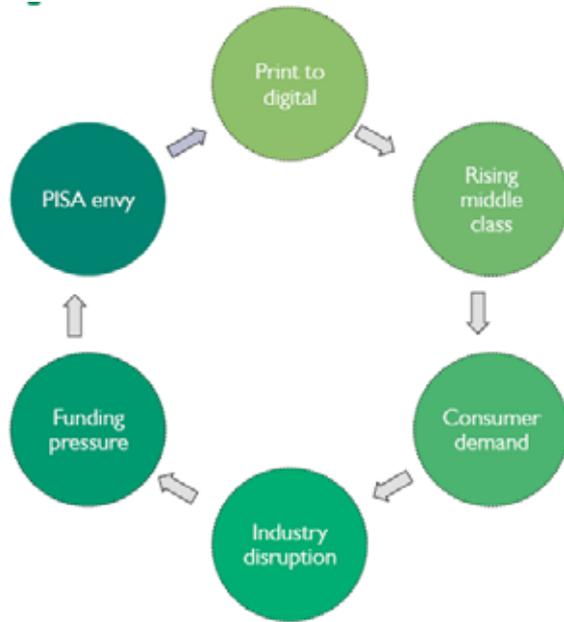
### The bull case

It is worth having a look at the bull case on Pearson too.

#### Rising demand for education

The backdrop is shifting forces. The bull points are a trend for a long-term increase in the global middle class, which will feed a demand for education as well as lifelong learning needs from consumers or adults (eg, language teaching). The negatives are industry disruption, government funding pressure and print to digital transition, which is a threat and opportunity (eg, professional development and educational tools and systems).

Fig. 11: Changes in education

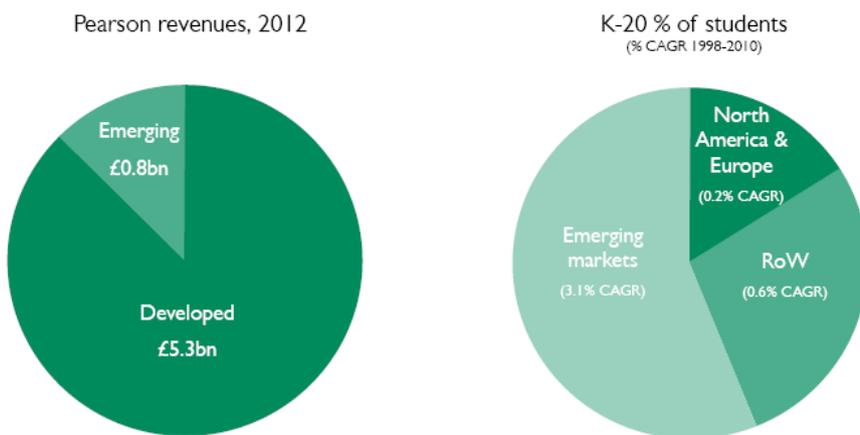


Source: Company data

#### Growth in education needs in emerging markets

Growth in the student population in emerging markets is significantly higher than in developed markets, where it is nearly flat. Only 15% of the company's sales are in emerging markets, so there is an opportunity to grow there, both in school and in adult education.

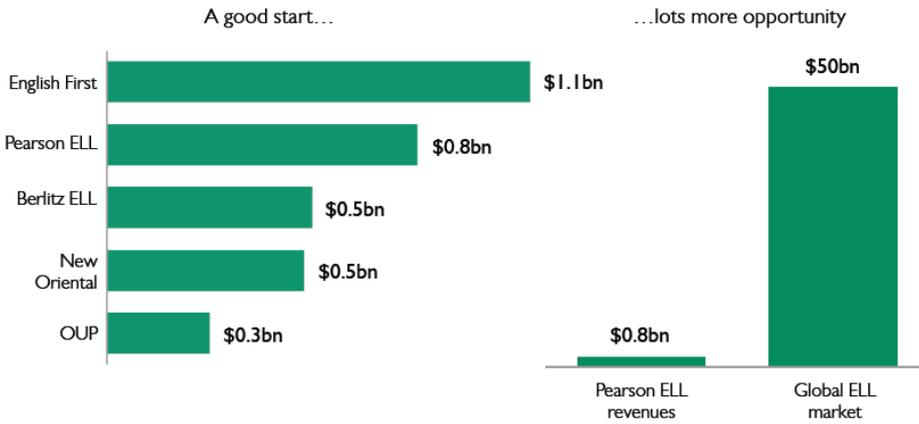
Fig. 12: Opportunity in emerging markets



Source: Company data

**Fig. 13: Opportunity in language teaching**

Leading global English Language Learning companies revenues



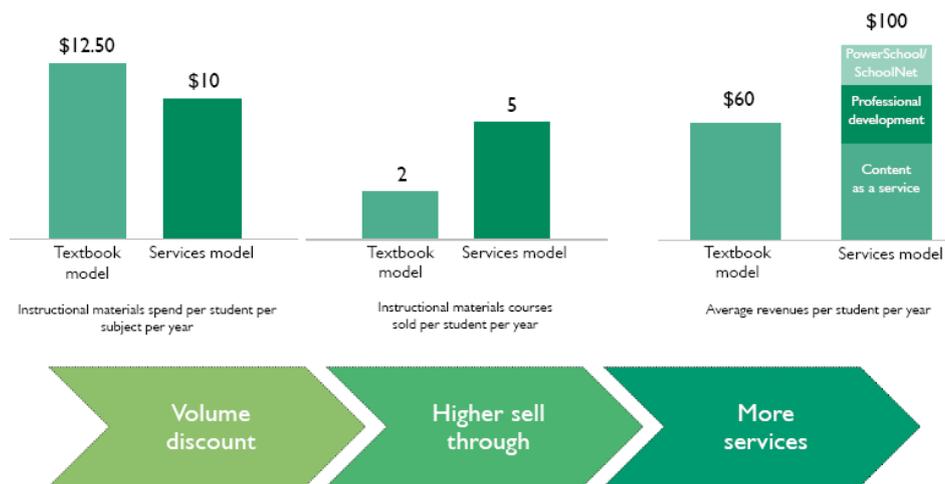
Source: Company data

**Move to a services model away from a textbook model**

The bull case assumes that the company will be able to capture additional revenue in digital education without losing too much revenue from the textbook business. The services model relies on the school needing a fully integrated solution to achieve digitised learning, testing and student data analysis, timetabling and teacher training/professional development. In order to achieve this, the company discounts its book price to achieve additional volume and layers other services such as training on top of the textbook sale.

This looks for a c20% reduction in the cost of the content, but aims to benefit when a school hires the company to provide more course material rather than just a couple of subjects. On the flip side, other educational providers will be winning some of these contracts and taking away Pearson’s provision of even a couple of subjects. The other issue is that selling other services is already baked into analysts’ models as these revenue streams are not entirely new. The assumed price for “content as a service” could also come under pressure in the digital world owing to new competition from companies that do not have to make large investments to adopt, or from OER companies that have philanthropic funding. That said, developing content is not cheap, and it is time-consuming. It can take 18 months to develop a textbook.

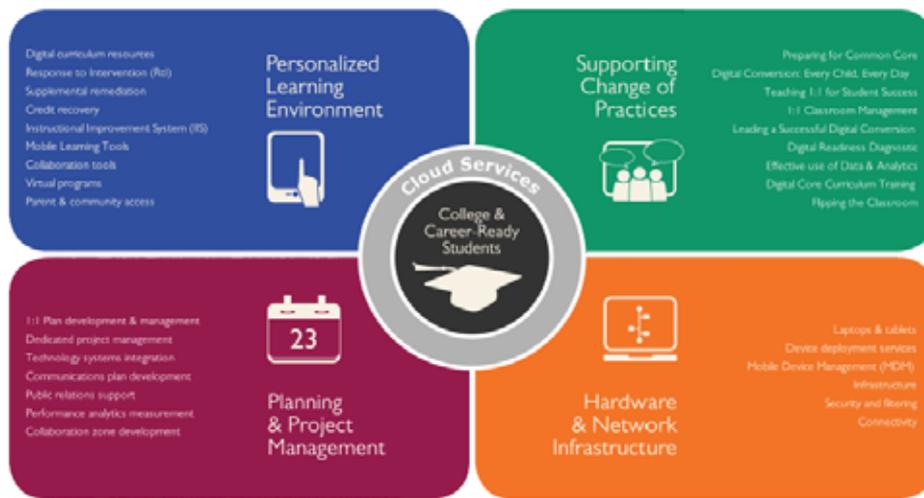
**Fig. 14: Pearson school services model**



Source: Company data

It is probably correct that already having a full suite of learning services puts Pearson in a stronger position against new VC-backed education technology companies. Some of these, such as Big Universe Learning and Pathbrite, ended up partnering with Pearson to use Pearson as a re-seller. But these were companies that were seeking a piece of the publishing market financially rather than the OER organisations that are looking to undermine the publisher's textbook business and lower student costs.

**Fig. 15: Full suite of integrated learning services**



Source: Company data

To illustrate the advantage of the integrated sale, Pearson points to the 2012 agreement with schools in Huntsville Alabama. This contract helps Huntsville educate its 23,000 students in a fully digital fashion, with both technology and content from Pearson. This contract also includes teacher training/professional development.

### Strong balance sheet

Pearson does have a strong balance sheet at a net debt/EBITDA of c1x. Including pensions and leases, this is actually closer to 2x or just slightly over at the half-year stage. This leaves the company with cGBP 500m for acquisitions, or perhaps up to GBP 800m including disposal proceeds from Merger market. Excluding restructuring charges, the deployment of this capacity could add 5-7% to group earnings. The company is not keen on buy-backs or the sale of the FT for the time being.

### Good yield

The company has a record of increasing the dividend, and this has averaged c7% over the past few years. The current yield is c3.8%, which is towards the upper end of the range for the publishers (Reed on 3.2%). To sustain this over the next couple of years, the payout ratio will have to rise from c53% to c60%.

### What would we need to see to change our view?

The main key events that would encourage us to change our view would be:

- Lower valuation.
- More rapid elimination of print exposure without damaging growth.
- Acceleration of growth in the North American Education and International Education businesses beyond what we and consensus have already baked in.
- Margin increases and earnings increases not reliant on tax rate, FX or release of acquisition EBITA.

# “A Revolution in Education”

## Hard to fight free: creative disruption

Supporters believe that digitally delivered OER will be the most important advance in education over the next decade. OER have been around in various forms for the past 10 years, but, until a couple of years ago, it has been piecemeal, often of low or dubious quality, and has enjoyed little funding. Although OER represent less than 5% of educational material consumed, that is starting to change, and funding and quality are improving to the point where existing publishers are beginning to mix their own material with OER. OER have the potential to considerably lower costs for students, improve their learning experience and affect the business model of the traditional education publishers, including Pearson, Cengage, McGraw Hill and Wiley. Essentially, the objective of OER is to make available to students free knowledge for which they are charged high prices by the traditional publishers. The CEO of one of the new disruptive actors has said: “I believe that students will move away from paying for textbooks and instead pay for tools that help them master material”.

The issue for the traditional publishers is that even if they agree with this trend, the payment for access to tools is much lower than the size of the legacy payment for textbooks and tools combined, which is the situation at the moment.

The Centre for American Progress has stated: “We are in the midst of a revolution in education. For the first time in human history we have the tools to enable everyone to attain all the education they desire. And best of all this education is available at almost no cost.....The key is OER...and OER exist for all levels of education from kindergarten through college.” (Dramatically Bringing Down the Cost of Education with OER) Centre for American Progress, Educause, February 2012).

## The meaning of OER

OER can be defined as any learning or teaching resource that is in the public domain that is free to use or modify, and is available under a creative commons licence. OER include:

- textbooks;
- lesson plans;
- videos;
- tests and exams;
- quizzes;
- flash cards and memory devices;
- long and short courses; and
- teaching aids.

## Origin of OER

The term OER is commonly attributed to the UNESCO 2002 Forum for the Impact of Open Courseware for Higher Education in Developing Countries. The movement itself is commonly attributed to developments arising from open and distance-learning initiatives that emphasised the open nature of the availability to content and rejected what Wikipedia calls the “commodification of knowledge”. The licence that governs the availability of OER is the Creative Commons licence. This allows the use and manipulation of material and knowledge without breaking copyright law. OER software often uses a GNU Public License (originating with Richard Stallman at MIT as an antidote to proprietary Unix software).

In our report on Pearson, *Tough Transition*, dated 12 September 2012, we outlined several issues for the North American Education business. These included:

- Delays to the implementation of Common Core standards.
- The high price of hard-copy textbooks.

- The lack of discounts offered for e-textbooks.
- A tough funding backdrop.
- The economic challenges from revenue and margin dilution in e-rental.
- The increasing use of OER as austerity increased. We saw this as an issue affecting mainly the K-12 business, but still saw OER as mainly supplemental. We no longer believe this to be the case, and the evidence suggests OER will affect college as much as K-12, if not more.

## The disruption of publisher rents by OER

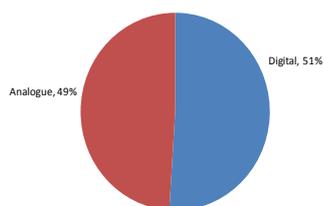
In this report, we focus on the increasing threat to traditional publishers from OER. Contrary to our thinking in our previous report, this threat applies with greater force to the college textbook business, which is the largest and most profitable business for publishers including Pearson and the other traditional publishers.

### Analogue/hard-copy exposure for Pearson, McGrawHill and Cengage

We should say at the outset that not all of the activities of the traditional publishers relate to K-12 and college textbook sales. They also provide course management, testing, professional development, learning tools, test preparation and language teaching. However, their exposure to this traditional activity is still very significant, and it still provides the majority of their profit and has high margins.

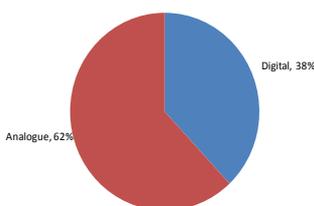
Pearson does not break down its digital exposure by every division, but states that for the group it is 50% digital (56% excluding Penguin), and services and 50% analogue. We estimate that this is about the same for the North American Education division, which includes higher Ed, K-12 and testing. What is important to note is that even part of the digital portion could be affected by OER so far as it relates to e-books, which are priced at similar levels to hard-copy books. What is also important to note is that the proportion of revenue that is digital at Cengage and McGraw Hill could be overstated, and is likely to account for any bundled sale of hard-copy and digital being accounted as digital. This is different from Pearson. This can be seen from the different levels of deferred revenue in each business. Where access to digital content is spread over the period of time revenue is recognised over the period and deferred, whereas an e-book sale is recognised immediately. Pearson has c13% of its revenue deferred vs c6% for Cengage, indicating lower levels of digital subscription activity at Cengage.

Fig. 16: Pearson N. American Ed (2012)



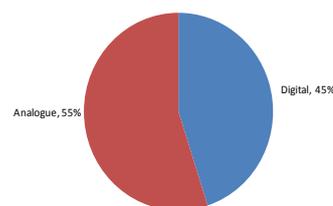
Source: Nomura estimates

Fig. 17: Cengage (2012)



Source: Company data, Nomura estimates

Fig. 18: McGraw Hill Higher Ed (2012)

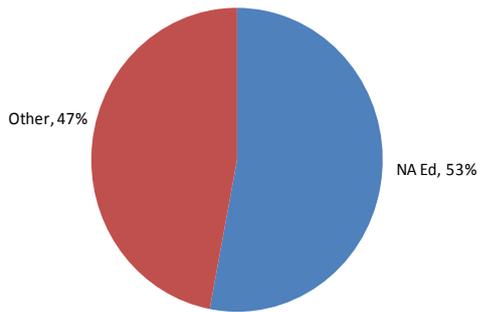


Source: Company data, Nomura estimates

Margins on these traditional college book businesses are high owing to the economic rents generated from students, schools and state authorities. Pearson’s North American Education business has an EBITA margin of 20% (we estimate 28% for Higher Ed) and an estimated EBITDA margin of 30%, Cengage has an EBITDA margin (pre-book plate/book development) of 40% and McGraw Hill has an EBITDA margin of 33% pre-book plate and 26% post-book plate.

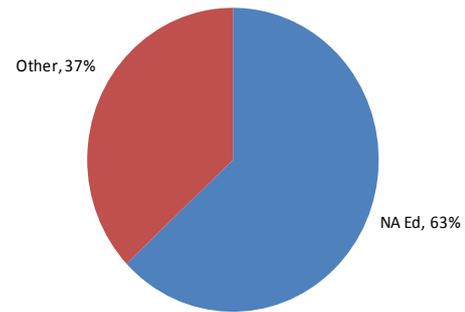
Although there will be textbook exposure in Pearson’s other businesses, especially International Education, the biggest chunk is in North American (NA) Education. NA Education is 53% of the group’s sales and 63% of group profit.

Fig. 19: Pearson N. America share of sales 2013E



Source: Nomura estimates

Fig. 20: Pearson N. America share of EBITA 2013E

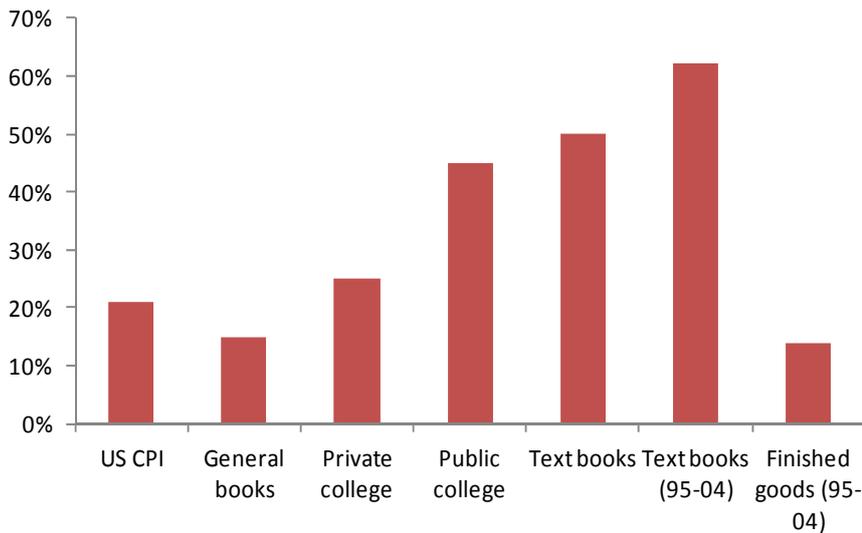


Source: Nomura estimates

### Textbooks are overpriced and prices grow too fast

The fundamental problem with the publishing market in education is that textbooks cost too much relative to student and state resources, and relative to the benefit they give. The average price for a new college textbook in the US is USD 175. The typical range is USD 100-250. A study by the Public Interest Research Group several years ago in the mid-2000s (entitled "Ripoff 101") found that:

- The average US student will spend USD 900 per year on textbooks (now USD c1,200). This was 50% of the tuition fee for a two-year public college and 20% of tuition and fees at a four-year college. This was several years ago. The amount spent has increased since then.
- Textbooks increased in price by four times the rate of inflation since 1994 and by nearly four times the inflation in non-educational books.
- Over the same period, tuition and fees at universities have increased 130%.
- Publishers use a variety of practises to inflate charges. New editions often cost 45% more than used copies of the previous edition.
- New editions were being produced every three years, with very minimal changes in content, but at price increases (12%) over the previous version well above inflation. A Houghton economics textbook, for example, was 21% more expensive than the previous edition.
- Some 76% of faculty said that new editions were justified only half of the time.
- The problem is compounded by college bookstores withdrawing old editions from stores, and forcing students to buy the new editions.
- Over 40% of students have gone without being able to purchase a book recommended by the professor for their class.
- Publishers use bundling to drive up prices. Some 50% of books were sold bundled with electronic add-ons, but 65% of professors say they never or rarely require the use of these materials.
- New textbooks are often sold in the US for far more than in other parts of the world. For example, when we looked this month, Pearson's Thomas' Calculus 12<sup>th</sup> Edition was on sale in the US for cGBP 140, whereas it can be bought in the UK for GBP 55.
- A later PIRG survey (of 1,905 students) from 2011 showed 70% of students had not bought a prescribed textbook owing to the high price; 78% of them expected to perform worse than peers who had the book.
- 81% of students reported being negatively affected by a publisher releasing a new edition of a textbook.
- 59% of students had been hurt by the bundling of books and pass codes to electronic content.
- 48% of students said they had been hurt by required editions published exclusively for their college.

**Fig. 21: Growth (2002-12) in textbooks and tuition more than double inflation**

Source: US CPI detailed report December 2012, PIRG, Chegg, Nomura research

#### Other sources tell a similar story

- The US CPI report for December 2012 showed college textbook inflation over the previous 12 months was 7.9%, one of the highest single categories. This was well in excess of the 4% for college tuition and fees, above the 2.2% for services and well above the -2.1% for recreational books.
- Chegg, the textbook rental company, which serves 30% of college students, says the cost of textbooks now averages USD 1,200 per year or c7% of the annual cost of attending a public college.
- 20 Million Minds says the average annual college textbook cost per student is USD 1,260 per year, and says the cost of books is one of the top-two reasons students give for dropping out of college.
- The cost of higher education is rising, and state funding is falling. State spending on higher education fell by 28% between 2008 and 2013.
- Some 66% of college students had loan debt in 2011 averaging USD 26,600, according to the Institute for College Access and Success. Current collective student debt is now over USD 1trn according to the CFPB, which is more than all US credit card debt.
- The length of time taken to finish college is growing, which is adding to the financial problem. Only 38% of first-time full time college students aiming for a BA finish the course within the four years.
- Textbook rental typically can be done at a 70% saving to the list price of the book.
- Ariel Diaz, the CEO of Boundless, a digital textbook company, has written that depending on the subject, between 30% and 70% of students cannot afford to buy the required texts for their course and that textbook prices have risen at three times the rate of inflation over the past 40 years (source: The Right Solution to the e-book problem: Putting Students First).
- E-books from traditional publishers are still overpriced. A recent study by Daytona State College showed many students saved only USD 1.00 by moving to e-books.

#### Student surveys confirm the need for OER textbooks, their relatively high-quality availability and willingness to use them

Student surveys carried out by the state of Florida, which has been in the vanguard of Open Access for textbooks, show both the hardships imposed by the high cost of textbooks from traditional publishers and a willingness to use OER. In a later section dealing with the impact of the use of OER, the evidence suggests that the learning outcomes from using OER match or surpass the use of traditional textbooks. The Florida student survey found:

- The Florida Open Access Textbook Task Force found that the cost of textbooks and materials has risen faster than inflation as averaged about USD 120 per course for undergraduates. The highest costs are for life sciences, physical sciences, business and maths. For students in these subjects, the Task Force found that the textbook costs often exceeded the cost of tuition:
- High textbook costs were affecting students financially and academically. As a result of high textbook prices:
  - 49% took fewer classes.
  - 45% did not register for a class.
  - 64% did not purchase a required textbook, 22% frequently.
  - 26% dropped at least one course.
  - Over 50% were willing to pay a small fee for open textbooks.
  - Over 50% thought the academic value of OER textbooks and OER Courseware was equal to or better than traditional textbooks.
- Interactive questions and tests were seen as important.

### **The fundamental difference between science and education publishing**

There is a movement in both science and education publishing to make available to the public everything that has been published as the result of tax payer funding. However, there is a fundamental difference between the two that is relevant to how they should be priced. Scientific articles are (if publishers are doing their job correctly) continually advancing knowledge, and each discovery adds to the body of knowledge. In education, this is rarely the case. Maths, at least as it applies to undergraduate study and below has not changed for decades. The same with languages and geography and a panoply of other subjects. The differences are:

- In open access in science, tenure is tied up with publishing in the most prestigious journals. Most teachers do not publish, so they do not have the same incentive to stick with the current system.
- University funding for research is also at least partly dependent on their scientists publishing in the most widely-read and cited journals.
- The non-author pays open-access system contains embargo periods that protect the journals. There are no such embargoes in OER.
- Under author pays, open access in science, the scientist is still usually publishing through a publisher-owned journal, albeit an open access one or a publisher-owned journal that offers a combination of traditional and open access.
- In science open access, the publisher still controls the price of the article, and varies it by the popularity and quality of the journal.

Why then is a textbook being published for USD 175 and subject to copyright? The only value addition is the layout or the way of explaining the topic. Revision or learning tools may be chargeable, but at a far lower rate than the USD 175 for a textbook.

### **Subject concepts do not change much**

This point has been made in a more eloquent fashion by Kevin Carey, the Director of the Education Policy Program at the New America Foundation. He said:

*“The problem for book publishers—and for colleges themselves—is that the first system (standard college courses) is much more profitable and more replaceable than the second (specialised courses). Calculus hasn’t changed much since Newton and Leibniz invented it in the 17th century. Yet there have been seven editions of James Stewart’s best-selling Calculus (list price: USD 245.95), the profits from which allowed Stewart to build a USD 24 million home with its own concert hall..... So it’s not surprising that textbook publishers have filed the equivalent of the Recording Industry Association of America’s infamous lawsuit against the first MP3 music player (the lawsuit against a digital textbook start-up called Boundless by Pearson, Cengage, Bedford and Macmillan). That’s what you do when your rents are threatened: use them to hire good lawyers”. (Source: Kevin Carey – “Never pay sticker price for a textbook again” Slate/Future Tense, 20 December 2012.)*

## **An industry ripe for disruption**

He has also noted that the textbook industry is ripe for disruption:

*“The Internet has made access to many kinds of information more flexible and less expensive. Novels, films, songs, photographs—all manner of things can be gotten from a broad array of providers for low prices, or for free, in digital form. Creators and distributors of intellectual property have struggled to balance the erosion of old business models with opportunities to sell their products in new and interesting ways. Yet the college textbook industry has not only managed to insulate itself from this trend—it has moved in the opposite direction, using digital content as a way to charge more money. Add-on software gets packaged with physical textbooks and often has an expiration date, undermining the resale market for books. Students and parents pay the price, which often gets added on top of increasingly onerous student loans. In fact, publishers are simply protecting the rents they’re extracting from college students. The college textbook market is unusual in that the person deciding what people should buy—the professor—isn’t the one actually doing the buying. It’s akin to prescription drugs and suffers from many of the same excesses, with large companies vying to protect highly-profitable blockbuster products and employing legions of salespeople to influence the relatively small number of agents who decide what millions of consumers will buy.”*

This issue of industry disruption in education has been remarked on by Dan Rosenweig, the CEO of Chegg. In Chegg’s prospectus he publishes an open letter and this excerpt is worth reading:

*The facts tell a grim story. The cost of education is rising, public funding is being cut and families are being required to shoulder a growing financial burden. As a result, the opportunity for affordable higher education is becoming available to fewer people. Students are increasingly concerned about the return on their investment of time and money, and employers cite skills gaps that prevent recent college graduates from filling open jobs. Our future depends on a well-educated, highly-trained and well-skilled workforce, and we are failing. The question is, why isn’t everyone outraged?*

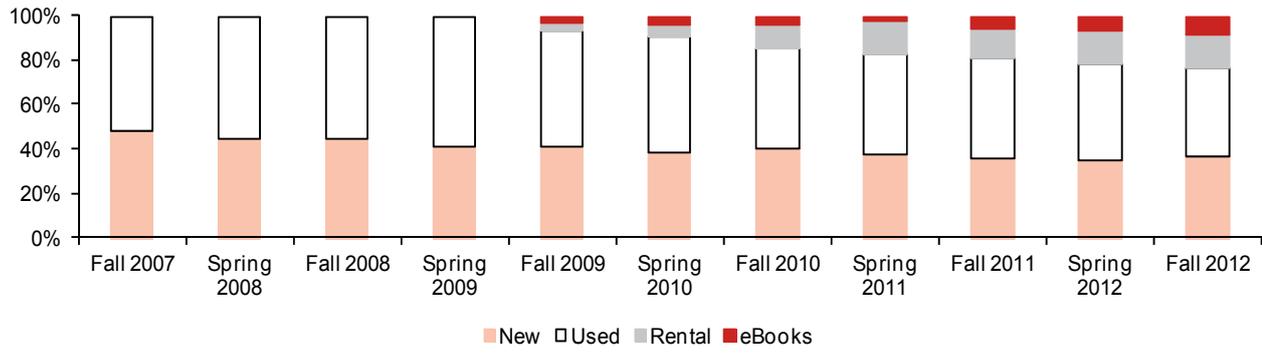
*The problem as we see it is that the education system is not focused on serving the primary consumer – the student. Our education system has evolved bureaucratically to conform to the needs of institutions, faculty, publishers and funders. Now, it’s time to put students first – to organize around the needs of each student as the consumer of education.*

*We have seen similar disruptions in many industries, including retail, entertainment, travel and communications, to name a few. In these cases, the real disruption has been the acknowledgement that the organizing principle for these industries should be around the actual consumer, not the channels built to reach them. While incumbents get disrupted, new companies with new technologies re-imagine the entire ecosystem with consumers at the center. With new capabilities and real-time data, disruptors are able to offer access and experiences that are cheaper and more personalized, valuable and convenient.*

## **Student buying behaviour is changing**

Student buying behaviour is already changing, with c31% of four-year college students using rental in 2012, according to Chegg. For new purchases, Student Monitor (as displayed by Cengage in its presentation, shows that purchases in autumn 2007 were 50/50 for used and new textbooks. In autumn 2012, this had moved to c37% for new textbooks, 40% for used, 15% for rental and 8% for e-books.

**Fig. 22: Evolving student buying behaviour**



Source: Student Monitor, Nomura research

# New entrants and disruptors through OER

The past few years have witnessed a strong increase in the number of actors and companies offering free or low-cost content under creative commons licences. This includes actors focusing on:

- Free/low-cost digital textbooks.
- Free/low-cost online courses.
- Search engines for OER online resources.

It is worth noting that we are not claiming specific companies will supersede or undermine traditional publishers, so the success or failure of any one company (which may be dependent on many factors, such as website usability, funding or marketing) does not, in our view, undermine our argument. We see each company challenging the status quo as much as a symptom of a system that is ripe for disruption as an actor that will disrupt it.

## Free and low-cost digital textbooks companies

### Bookboon.com, [www.bookboon.com](http://www.bookboon.com)

Bookboon provides over 1,000 free digital textbooks for students and business professionals. The books are available as downloads without registration. The company's mission is defined as "Our mission is that students should be able to go through university without having to pay for textbooks".

The business model is based on advertising from employers including Microsoft, Deutsche Bank, BP, Oracle, ING, P&G and others who use it for branding and recruitment. The limit per book is 15% devoted to advertising, which has been set in consultation with professors and students. We downloaded Calculus II a workbook with 37 pages. There were two ads on the contents page with ads (clickable) targeted at graduates for Deloitte and Deutsche Bank. Inside there were further ads for EADS, Aviva, Helpmyassignment, a Swedish university, Stafford Associates, RWE, a magazine company, a Danish energy company and Axa.

The company was founded in 2005 in Denmark by Kristian and Thomas Madsen, students at Copenhagen Business School. The global website was launched in 2008. The books cover virtually all subjects, and now over 50% of downloads come from the developing world. Students are allowed to use the content for all non-commercial purposes, link to the book and share the book by uploading the PDFs to a website or server. Users are encouraged to tell their teachers and professors and fellow students about the free service.

### Boundless.com, [www.boundless.com](http://www.boundless.com)

Boundless supplies digital textbooks on PC, tablet and mobile devices in over 20 subjects for the US college market. The material is sourced by educational experts from free sources under creative commons licence and structured into a format that mirrors the subjects the students are required to learn. The company provides over 20 free core texts, but the rest are charged at USD 19.99 for unlimited usage by the student or teacher. This fee was introduced in August 2013, and prior to this usage was free. It remains to be seen what impact this charge will have on usage but it is necessary to cover costs in the absence of advertising income.

In March 2013, the company announced it had served over half a million students and teachers, and was having over 1,000 students interact with Boundless content each day. In May 2013, the company said it has seen high take-up in certain colleges especially in intro-level classes. For example, 28% in Boston University's intro microbiology class, and 20% in the intro financial accounting class reported using Boundless books, 27% at Northeastern University's macroeconomics class, 19% of University of Central Florida's intro microeconomics course and 45% of University of Illinois's intro psychology class. Overall, in the previous semester, 95% of Boundless users reported they achieved the grade they expected or higher, which suggests they will continue to use the content and recommend it to others. About 88% said they were likely to use Boundless again.

Boundless has good reach as over half of all US colleges have some students that use it, but the company needs to increase the number of students at each college. Boundless sees its product as going well beyond the traditional textbook in allowing the student to input the name of the book their professor has assigned and letting Boundless create a book with superior content that covers the same material and more and in a superior way. Some of the features offered are:

- Shareable study guides for individual and group study sessions.
- Notebooks that are autogenerated as students highlight important text and figures.
- Boundless SmartNotes that summarise important topics, perfect for exam prep or studying in a flash.
- Self-assessment tools, like pre-made flashcards and quizzes, for students to test their knowledge before exams and classes.
- New, unaligned textbooks, combining the best the web has to offer in subjects such as biology, history and marketing.
- Mobile, HTML 5, website optimised for studying on any device so students can study anywhere.

Boundless says that its books and learning process is superior to that of the traditional publishing companies, and the outcomes are better. As well as condensing the required content, it says it has a special learning technology based on two concepts: active recall and spaced repetition. Active recall is about retrieving information from memory by taking a quiz or a test. Boundless says that students using these techniques typically perform 50% better than those who do not.

Spaced repetition is about putting the right gaps in learning to allow the information to be retained. Boundless says: "Boundless Learning Technology has integrated advanced SR algorithms to test the user's knowledge of individual concepts and calculate the optimal review schedule for the material being learnt. Every student learns in a unique way and the Boundless SR algorithm determines a unique pattern of review and repetition for each concept a student learns".

An efficacy study by two academics (Zach Rosner and Nancy Tsai) using 40 students found that those using Boundless content spent less time studying for the test (7.6 minutes vs 13.1 minutes), and achieved a higher score on the test (80% vs 66%). They concluded: "These findings indicate that studying with Boundless results in superior encoding efficiency, memory retention, and user experience. These results are likely attributable to several aspects of the Boundless platform. First, the information is presented more clearly and concisely, allowing participants both to more easily read the relevant information, and also to read all information in fewer words. Next, the organization helps students locate information more readily, and the structure likely helps to consolidate the encoded information. Lastly, the study aids such as flashcards and quizzes provide a strong mnemonic benefit beyond simply reading the text, and also help the students assess their own understanding of the material. In total, these characteristics of Boundless lead to a superior learning experience." They did advocate more studies involving larger sample sizes.

Boundless explicitly aims to give the student a better experience than the traditional textbook and has explicitly said traditional textbook prices are too high and they aim to be part of disrupting the way that traditional education publishing works. The company stated in January 2013: "Textbooks remain the core content for most courses in higher education, with over 80% of the market controlled by the top four publishers. These publishers have continued to raise prices for this stagnant product in the face of innovation in every other information-related industry, growing at a rate of 3 times inflation". It has also said in legal documents filed in its defence that: "part of the reason for the increase in prices of traditional textbooks despite the rapid decrease in the cost of obtaining educational content is the oligopolistic character of the textbook market....because the existing market for college textbooks did not take advantage of

the efficiencies of the digital age, namely the wealth of OER content freely available Boundless took upon itself the mission of adapting and distributing this wealth of high-quality free and openly-licensed content for use by students as educational material for their college course at no cost to the students”.

As a result, traditional publishers in the shape of Pearson, Macmillan and Cengage sued Boundless in March 2012. In essence, they claim that by using the same or similar chapter headings in their digital texts, Boundless is copying their IP. Boundless denies this and also argues that the traditional publishers are copying chapter headings from each other. Boundless argues that the traditional publishers through this lawsuit are trying to reduce competition and preserve an oligopolistic market structure. Boundless has filed a defence in the Southern District of New York and demanded a trial by jury. The matter is currently subject to mediation.

Fig. 23: Open-source education landscape

Firm	Description	Investor	Field	Content Delivery	Founder	Students / Usage stats.
<b>COURSES</b>						
Coursera	Coursera is an educational technology company offering massive open online courses (MOOCs). Universities offer free courses through its online platform	Coursera secured \$16m in first round funding. It raised \$43m in the second from GSV Capital, International Finance Corporation (IFC), Laureate Education Inc. & others	Offer around 400 courses from 83 educational institutions from 16 countries. Topics span Humanities, Medicine, Biology, Social Sciences, Mathematics, Business & Computer Science		Launched in April 2012	4 million students
Khan Academy	Khan Academy offers materials and resources to students and teachers completely free of charge	Donor-supported not-for-profit. Supported by various organisations including Bill & Melinda Gates foundation, Fundacao Lemann, O'Sullivan Foundation, Google and individuals and donations	Library of over 4,400 videos on K-12 math, science topics such as biology, chemistry, and physics and also includes humanities, finance and history	Video library / Interactive challenges / assessments via internet	Salman Khan, graduate of MIT and Harvard Business School.	Youtube channel - 13m subscribers / 288m views
MIT Open CourseWare	Website provides core academic content—including lecture notes, syllabi, assignments and exams—from largely all of MIT's undergraduate and graduate curriculum freely	Total annual cost of MIT OCW is about \$3.5 million, spent on publication (47%), tech (29%) and other (24%). Support from MIT, endowment income, corporations and	MIT's undergraduate and graduate content. They have published 2150 courses.	Video lectures, simulations, and animations via Website, Youtube / iTunes U content	Founded by MIT in 2002 with 50 courses, launched officially in 2003	Youtube channel - 314k subscribers / 53m views. Website averages 1m visits each month with 44% NA, 17% Europe, RoW 39% reached 100 million individuals to
edX	EdX is a massive open online course (MOOC) platform	Founding partners Harvard and MIT. They each made an initial investment of \$30-million to start the edX effort.	EdX offers online courses from more than 20 edX Consortium institutions Topics covered from Science to Art to Technology		Founded in 2012	YouTube channel: 10k subscribers / 169k views
Udacity	Udacity offers online classes and students receive a certificate of upon completion at no cost	Founder / venture capital money	Focusses on higher education	Courses are interactive and include activities, quizzes, and exercises interspersed between short videos and talks by instructors and industry experts	Started as a Stanford University experiment in which Sebastian Thrun and Peter Norvig offered their "Introduction to Artificial Intelligence" course online to	
CK-12	CK-12 Foundation creates and aggregates STEM content.	a non-profit organization	educational materials for K-12 students all over the world. CK-12 library includes 5,000 math and science concepts and FlexBooks	Includes videos, images, reading, simulations, real world applications, activities, flashcards, study guides,		
Open Courseware Consortium	Community of 250 universities and associated organizations worldwide committed to advancing OpenCourseWare	Supported by the William and Flora Hewlett Foundation	Published materials on 13,000 courses in 20 languages			
Open Yale courses	Provides free and open access to introductory courses taught at Yale University	funded by the William and Flora Hewlett Foundation	courses span the full range of liberal arts disciplines, including humanities, social sciences, and physical and biological sciences.			Youtube channel - 162k subscribers and 20m views.

Source: Organisation data, Nomura research

Fig. 24: Open-Source education landscape (continued)

Firm	Description	Investor	Field	Content Delivery	Founder	Students / Usage stats.
Open Course Library	A collection of shareable course materials designed by teams of college faculty, instructional designers, librarians, and other experts.	Materials are created through an optional Washington State Board for Community & Technical Colleges (SBCTC) grant, and carry an open license and are freely	Course material includes syllabi, course activities, readings, and assessments	Some materials are paired with low cost textbooks (\$30 or less), many of them are completely free.		
Grovo	Grovo.com is the leading Internet training platform that sharpens your Internet skills.	Freemium service. VC funding	Internet Skills, 3,500+ video lessons covering 100+ Internet tools and cloud services			
<b>SEARCH</b>						
gooru	Gooru is a free search engine for learning. Allows to organise content in collections and quizzes for study	developed by a 501(c)(3) non-profit organization. Supported include BMG foundation, Hewlett foundation, SCE, Google Cisco and	Millions of resources for 5th-12th grade Science, Math, Language Arts, and Social Science courses at our fingertips			
OER Commons	Provides a single point of access to OER from around the world.	Supported by the William and Flora Hewlett Foundation, ISKME and others		Alliances with 500 major content partners and users can search across 42,000	Publicly launched in February 2007	
<b>BOOKS</b>						
Boundless learning	Boundless' learning platform provides open educational content in 20+ subjects. Boundless textbooks are available for free and premium.	Raised \$10 million in funding of which \$8m by Venrock, a VC firm	20+ subjects including Accounting, Algebra, History, Biology, Business, Calculus, Chemistry, Economics, Finance, Marketing, Physics, Political Science,	Textbooks available across multiple channels, including mobile, website, and eBooks.	Founded in 2011	
Openstax college	Free textbooks are developed and peer-reviewed by educators to ensure they are readable, accurate, and meet the scope and sequence requirements of your course.	Sponsored by the William and Flora Hewlett Foundation, the Bill & Melinda Gates Foundation, 20 Million Minds Foundation, the Maxfield Foundation, and Rice	Span various subjects including History, Economics, Psychology, Physics, Biology, Chemistry, Statistics	Textbook online editions are free, and printed copies cover production costs	OpenStax College is an initiative of Rice University	
bookboon.com	Publishes education related books for business professionals and students.	Supported by advertisements, mostly employers intending to recruit the students. Have set a 15% advertising limit per book.		range of over 1000 eBooks in seven languages, directly available to download from the website.	originated in Denmark in 1988. In 2005, 100% focus on free eBooks.	42 million downloads per year
<b>FOUNDATIONS</b>						
Bill & Melinda Gates foundation	Philanthropic organisation. Work with partners to support challenges from poverty to health, to education		Thier US program is focussed on ensuring that all students graduate from high school prepared for college and have an opportunity to earn a postsecondary degree			
William and Flora Hewlett Foundation	Philanthropic organisation.		Education Program has concentrated on improving the conditions for education policy reform in California and fostering			

Source: Organisation data, Nomura research

**Openstax, [www.openstaxcollege.org](http://www.openstaxcollege.org)**

Openstax is a non-profit organisation that aims to supply free digital and low-cost print textbooks to 10 million students. Under the leadership of Rice University, the organisation is funded by the Hewlett Foundation, the Gates Foundation, the Maxfield Foundation and the 20 Million Minds Foundation. These have been joined by the Laura and John Arnold Foundation and the Calvin K. Kazanjian Foundation. These books are professionally produced by recognised faculty, and peer-reviewed by hundreds of faculty. Openstax says it hires the same content developers that the publishers use. The publications are available on iBooks and on a range of devices including the iPad. They are available under Creative Commons licence and are adaptable by faculty members for teaching.

Openstax stemmed from the Connexions platform that was built by Rice University in the US. It aims to release 25 textbooks covering the 20 most popular college courses. Two books, "College Physics" and "Introduction to Sociology" were released in June 2012. A further three, "Biology", "Concepts of Biology" and "Anatomy and Physiology" were released in April 2013. The first book release in iBooks was "College Physics" in December 2012. The main version is free and the iBook version costs USD 4.99 (vs USD 80-250 for publisher-produced textbooks). The iBook version includes added video interactive graphics, tests and demonstrations. Openstax aims to release added-value versions on other digital platforms too. Print books are available for USD 20-30 in colour. A free printed copy is supplied to professors. Each book costs about USD 0.5m to develop.

Some 1.2m downloads have been made so far, and the books are used at over 200 colleges. The founder, Professor Richard Baraniuk, believes the new books eliminate much of the work for faculty in assembling OER modules from many different sources as well as verifying the quality and accuracy of the information. The AAP has said what matters is the quality of the materials, and whether they enable students to pass the courses and get degrees, saying, "nothing else really counts". The Openstax founders believe its books fulfil these criteria.

The founder stated: "Instructors want their students to do well, and we want to provide instructors with a book option that helps students both in terms of price and performance. Quality is the key. We believe the reason instructors have been slow to adopt open-source textbooks in the past has been that the free options weren't all that attractive. The rapid success of our books over the past year bears that out. If you offer a quality book for free, people will jump at it". (Rice University News, 2 May 2013)

A video from a sociology professor at the University of Oklahoma states that 95% students using the Openstax Sociology textbook wanted it used again, and 85% said it was as good or better than the standard publisher produced textbook. In terms of usage, 25% read it online, 50% downloaded it and read it digitally, 13% printed it off and 13% used it on a tablet. Openstax is looking for its average book to achieve a usage market share of 10%, and believes just the first five books could save students USD 90m over five years if that market share is achieved, rising to USD 750m for all 25 books planned.

The founders of Openstax are not fazed by Flatworld starting to charge for previously free digital texts because Openstax is a donor-funded non-profit organisation. The founder said: "the reason we feel we can succeed where Flatworld didn't is that we're a non-profit organization. We are accepting philanthropic dollars to develop and market our texts. The way we are paying back our funders is in student savings" (Inside Higher Ed, 4 December 2012).

Openstax has more than a dozen partnerships with other companies, including some traditional publishers, which build on the core Openstax content to offer online homework, testing and other paid-for products. One such partnership is with Wiley for an introductory college biology textbook, which offers the Openstax book as a free download along with the WileyPlus interactive practice and testing tools. Wiley sees this as a way of getting into a market quickly as it does not publish such a biology book. However, it would not be so keen to co-operate on physics where Wiley has its own leading traditional textbook. Wiley has vouched for the quality of the Openstax textbook saying: "They are producing something of quality that has been vetted". At the same

time, "they don't really provide the complete solution; they provide the textbook piece." (InformationWeek Education – Wiley, Openstax Team on Biology Textbook, 11 March 2013). Another example is Sapling Learning using the Openstax Physics textbook with its learning tools.

**That said, Openstax is beta testing a new product called Openstax Tutor**, which is likely to put it in competition with traditional publishers, not just in textbooks, but also in testing, course management and learning tools provision as well. This is defined as: "A study resource, homework, and test delivery system that uses powerful, advanced techniques to improve student learning and instructor understanding". It is free to students and teachers. Depending on usage, colleges may pay a mission support fee. The main features of its offering are shown in Fig. 24.

**Fig. 25: Functionality offered by Openstax Tutor**

	Standard Version	Enhanced Version
<b>Not your standard course management system</b>		
Free for individuals; inexpensive for organizations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Simple, clean interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Proven learning principles increase long-term understanding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Repeat concept practice throughout the class	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Focus on knowledge retrieval over answer recognition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Give immediate or delayed automatic feedback	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Make viewing feedback required or optional	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Choose timing and type of feedback	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Use your own content or existing open content	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Multiple choice grading is done for you	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Export grades to Excel with a single click	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
View overall class performance at a glance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Support for students in multiple time zones	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Students can easily upload any written work	Coming Soon!	Coming Soon!
Learner analytics tell instructors who knows what	Coming Soon!	Coming Soon!
<b>Ask students questions in a variety of formats</b>		
Multiple-choice	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Open-ended	Coming Soon!	Coming Soon!
Matching	Coming Soon!	Coming Soon!
Multipart	Coming Soon!	Coming Soon!
Essay	Coming Soon!	Coming Soon!
<b>Post and get feedback on study materials</b>		
Use any web URL as a study resource	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Upload PDF study resources	Coming Soon!	Coming Soon!
See which resources students are using	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Set the stage for assignments with introductory text	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Powerful platform for running experiments in the classroom or online</b>		
Students can opt in or out of a research study		<input checked="" type="checkbox"/>
Manage informed consent documents		<input checked="" type="checkbox"/>
Informed consent obtained electronically		<input checked="" type="checkbox"/>
Customize and automated experiments for different groups		<input checked="" type="checkbox"/>
Monitor experiment via researcher interface		<input checked="" type="checkbox"/>
Export research data to Excel with a single click		<input checked="" type="checkbox"/>
Instructors can be co-authors if their study data is publishable		<input checked="" type="checkbox"/>
Help advance progress in education		<input checked="" type="checkbox"/>
<b>Easily create a barrier between researchers and instructors</b>		
Researchers never see personal information without consent		<input checked="" type="checkbox"/>
Instructors never see research or consent information		<input checked="" type="checkbox"/>
<b>Moving towards a goal of personalized education</b>		
Learning pathways personalized for individual students	Coming Soon!	Coming Soon!
Automated personalization for any class with online content	Coming Soon!	Coming Soon!
Automated discovery of relationships between online materials	Coming Soon!	Coming Soon!

Source: Openstax Tutor

## Free online courses

### Coursera, [www.coursera.org](http://www.coursera.org)

Coursera is an educational technology company offering massive open online courses (MOOCs). Coursera partners with the top universities and organisations in the world to offer courses online for anyone to take, for free. This enables its partners to teach millions of students rather than hundreds. It offers 400 free online courses from 84 educational institutions from 16 countries. These cover topics spanning the humanities, medicine, biology, social sciences, mathematics, business and computer science. It has

4.4m students registered on its website. Its YouTube channel has 15k subscribers and 645k video views.

Coursera's goal is of educating tens of millions of students in five years, while simultaneously transforming the approach, learning experiences and outcomes for education on a global scale. Coursera was founded by Stanford Computer Science Professors Daphne Koller and Andrew Ng and was launched in April 2012. It secured USD 16m from Kleiner Perkins Caufield & Byers and New Enterprise Associates in its first round of funding then. In July 2013, Coursera closed USD 43m in Series B funding from GSV Capital, International Finance Corporation, Laureate Education Inc. and venture capitalist Yuri Milner.

Coursera features lecture concepts broken down into 10-15 minute video chunks and uses a trajectory personalised to individual students. It uses frequent interactive quizzes embedded in lecture videos to increase retention of material and auto-graded exercises give students instant feedback. Further, it provides a platform that facilitates discussions among international students.

All universities offering courses on Coursera receive a share of any revenue generated by Coursera's business strategies, which include verified certificates through Signature Track, course adoption by institutions and companies, and additional upcoming programmes.

#### **Khan Academy, [www.khanacademy.org](http://www.khanacademy.org)**

Khan Academy has a library of over 4,500 videos covering arithmetic, physics, finance, and history that can be accessed by students for free. Students can make use of their extensive video library, interactive challenges, and assessments from any computer with access to the web. Each video is a digestible chunk, approximately 10 minutes' long. Its YouTube Channel has 1.3m subscribers and has about 290m video views.

Khan Academy was founded in 2008 by Salman Khan who started posting videos online, quit his hedge fund job and decided to pursue the endeavour full-time. Khan Academy is a donor-supported not-for-profit organisation. It is supported by various organisations including Bill & Melinda Gates foundation, Fundacao Lemann, O'Sullivan Foundation, Google and also by individuals and donations.

#### **edX, [www.edx.org](http://www.edx.org)**

edX is a non-profit organisation created by founding partners Harvard and MIT. EdX offers MOOCs and interactive online classes in subjects including law, history, science, engineering, business, social sciences, computer science, public health and artificial intelligence. Currently, edX courses are free for everyone. It is composed of over 20 leading global institutions.

edX was founded in 2012 and created by founding partners Harvard and MIT, which each made an initial investment of USD 30m to start the effort. Currently, the website has 60 courses. Its YouTube Channel has 10k subscribers and has about 169k video views.

#### **cK-12, [www.ck12.org](http://www.ck12.org)**

cK-12 provides open-source content and technology tools to help teachers provide learning opportunities for students globally. cK-12 makes it easy for teachers to assemble their own textbooks. Content is mapped to a variety of levels and standards including common core. cK-12 helps students and teachers alike by enabling rapid customisation of teaching and learning styles. cK-12 was founded in 2007.

cK-12's FlexBook textbooks are open-source digital textbooks that are free, fully customisable and the current FlexBook library primarily contains titles in science, technology, engineering, and mathematics. Users may read, download, and adapt CK-12's textbooks at no cost. cK-12 foundation is supported by the Amar Foundation, and Vinod and Neeru Khosla. The platform has delivered 42 million+ learning experiences with 5,000+ concepts learned through 15,000+ resources.

#### **Open Course Library, [www.opencourselibrary.org](http://www.opencourselibrary.org)**

The Open Course Library offers 81 free high-quality college courses that are adaptable by professors under a Creative Commons licence. They are all stored in Google docs.

The library defines its offering as: “a collection of shareable course materials, including syllabi, course activities, readings, and assessments designed by teams of college faculty, instructional designers, librarians, and other experts. Some of our materials (also called open educational resources) are paired with low-cost textbooks (USD 30 or less), many of them are completely free”. The materials were developed through a grant from the Washington State Board of Community and Technical Colleges and are owned by the board. A few of the courses need the purchase of a textbook, the cost of which is USD 30. The majority of textbooks are free. The organisation is funded by the Gates Foundation and Washington State.

**Saylor, [www.saylor.org](http://www.saylor.org)**

The Saylor Foundation, founded in 1999, offers over 300 online courses created by professional faculty using OER materials and focusing on the undergraduate college market. It also has K-12 and professional development offerings. It is not an accredited institution, so cannot confer degrees. It does have some limited partnerships with colleges that accept Saylor courses, counting towards course credit on completion of a proctored exam. At the end of each course, students take an exam, and if they pass are given a certificate.

**Flatworld Knowledge**

The company was founded in 2007 by Eric Frank and Jeff Shelstad. It publishes college-level books written by professional authors, and offers over 100 texts. It publishes under Creative Commons. It allows students to enter into a website the book their professor has chosen and creates a digital version. It is supported by VC funding, and in 2011 Random House (Bertelsmann) announced an investment. It charges USD 19.95 for online reading and USD 34.95 for online and PDF downloads on multiple devices. On-demand printing is also available, but the student has to wait a week for this to arrive. Prior to November 2012, all books were free, but too much usage of the free options and the unsustainability of the business model led to the change. In 2012, the company announced partnerships with MIT for Open CourseWare, the University of Minnesota, the University System of Ohio and University of Windsor, Ontario.

**Smarterer, [www.smarterer.com](http://www.smarterer.com)**

Smarterer provides over 900 assessments tests to help thousands of recruiters and job seekers around the world quantify skills. These skill tests cover everything from Microsoft Excel to programming skills to business skills.

Smarterer tests are public by default. These crowdsourced tests cull the collective intelligence of hundreds of thousands of people, quickly surfacing the emergence of new skills and the latest workforce trends. Each test is open to anyone to add questions.

Founded in 2010, Smarterer is backed by Google Ventures and True Ventures. Its community of users have taken over 2 million tests and answered over 20 million questions.

**Udacity, [www.udacity.com](http://www.udacity.com)**

Udacity offers classes that anyone can take, anytime and it believes that higher education is a basic human right. Upon completing a course, students receive a certificate of completion indicating their level of achievement, signed by the instructors, at no cost. Udacity courses are highly interactive with activities, quizzes, and exercises interspersed between short videos and talks by instructors and industry experts. The company offers free online courses in computer science, mathematics, general sciences, programming and entrepreneurship.

Udacity was born out of a Stanford University experiment in which Sebastian Thrun and Peter Norvig offered their "Introduction to Artificial Intelligence" course online to anyone, for free. However, there is a for-credit path for some of the courses. The primary differences between for-credit and free classes are the support services and proctored exams that are part of the credit pathway.

Udacity was created by founder/venture capital money. Udacity had raised USD 21m in its year of launch, 2012, from Andreessen Horowitz, Charles River Ventures and Steve Blank.

## Gates Foundation

The Gates Foundation invests in improving K-12 education, believing that only 25% of US public high school graduates have the skills to succeed academically at college. The foundation also provides funds for teacher training. The foundation is a major supporter of Common Core. The main educational partnerships are shown in Fig. 25.

**Fig. 26: Gates Foundation Education Partnerships**

- Achieve
- Alliance College-Ready Public Schools
- Alliance for Excellent Education
- Alliance Public Schools
- American Federation of Teachers Educational Foundation
- American Institutes for Education Research
- Aspen Institute
- Aspire Public Schools
- Center for American Progress
- Center for Teaching Quality
- Charter School Growth Fund
- Colorado Department of Education
- Colorado Legacy Foundation
- Council of Chief State School Officers
- Council of Great City Schools
- Data Quality Campaign
- Denver Public Schools
- Education Counsel
- Education Delivery Institute
- Education Trust
- Educators for Excellence
- Engaged Learning
- Green Dot Public Schools
- Hillsborough County Public Schools
- The Hunt Institute
- iNACOL (International Association for K-12 Online Learning)
- inBloom
- Innosight Institute
- Kentucky Department of Education
- Learning Forward
- Literacy Design Collaborative
- Louisiana Department of Education
- Memphis City Schools
- National Governors Association
- The National Writing Project
- New Schools Venture Fund
- New Teacher Center
- Pittsburgh Public Schools
- PUC Schools (Partnerships to Uplift Communities)
- RAND
- The Shell Center
- The Southern Regional Education Board
- Shared Learning Collaborative
- Strategic Data Project
- Student Achievement Partners
- Teaching Channel
- TeachPlus
- Teachscape
- TNTF
- Tulsa Public Schools
- University of Michigan
- U.S. Education Delivery Institute

Source: Gates Foundation (NB the Gates Foundation has additional partnerships not included in this list), Nomura research

## OER search engines

### Connexions, [www.cnx.org](http://www.cnx.org)

Connexions is a digital ecosystem for OER content delivery and storage, it has over 17,000 learning modules and over 1,000 collections (books/articles) are used by over 2m people each month. It is global and designed for all ages and for students and teachers. Material is downloadable to most mobile devices. Schools and colleges can order low-cost printed copies of textbooks. Anyone can input content, but a “lenses” system allows for review and endorsement by trusted and professional users. The organisation is supported by a consortium that includes international members as well as domestic US foundations and colleges.

**Fig. 27: Connexions consortium members**

- Akademos
- China Open Resources for Education
- Community College Consortium for Open Educational Resources (CCCOER)
- Creative Commons
- Flat World Knowledge
- Houston Community College
- Indiana University
- Kennisnet
- Kentucky Community and Technical College System
- National Council of Professors of Educational Administration (NCPEA)
- Rice University
- Shuttleworth Foundation
- Soomo Publishing
- Teachers Without Borders
- Trinity Education
- Upfront Systems
- Vietnam Foundation
- Washington State Board for Community and Technical Colleges
- WebAssign
- Words & Numbers

Source: cnx.org, Nomura research

The main backer is Rice University. The founder of the entity is Professor Richard Baraniuk who also founded Openstax.

### **OER Commons, [www.oercommons.org](http://www.oercommons.org)**

OER Commons is a repository and search facility for OER materials, mostly US, but also global. This includes full courses, modules, syllabi, lectures, homework assignments, quizzes, lab activities, pedagogical materials, games and simulations. OER Commons was created by the Institute for the Study of Knowledge Management in Education (ISKME) a non-profit organisation. It was built to serve teachers and help them discover free high-quality educational material. It began in 2007 with a grant from the Hewlett Foundation and aggregates information from over 350 OER providers globally. Materials are peer-reviewed for quality and standards adherence. Information is shared and mixed under Creative Commons licences. ISKME also offers OER training to educators.

## **Government approval and sponsorship of OER**

Widespread adoption of OER could be hard to achieve without government and public funding. Support from foundations can help establish and support OER in initial stages, but in order to sustain government support may be essential.

In this section, we look at government-sponsored initiatives to support OER.

### **TAA-CCCT: federal support to create OER for community colleges**

In January 2011, the US Department of Labor announced a solicitation for grant applications under the Trade Adjustment Assistance Community College and Career Training Grant Program (TAACCCT). The Labor Department announced that it would award approximately USD 500m in 2011 through the programme and a total of USD 2bn over the next four years. Grants will support the development and improvement of post-secondary programmes of two years or less that use evidence-based or innovative strategies to prepare students for successful careers in growing and emerging industries. The programme is administered by the Labor Department in co-ordination with the US Department of Education.

Applicants must be community colleges or other two-year degree granting institutions of higher education, as defined in the Higher Education Act of 1965. The grants will enable eligible institutions to expand their capacity to create new education or training programmes — or improve existing ones — to meet the needs of local or regional businesses.

The grants will provide postsecondary institutions with an opportunity to develop and make innovative use of a variety of evidence-based learning materials, including cutting-edge shared courses and open educational resources. These resources would be available online for free, greatly expanding learning opportunities for students and workers.

In September 2012, it announced the second round of USD 500m in community college grants. Educational institutions will use these funds to create affordable training programmes that meet industry needs and allows to invest in staff and educational resources, and provide access to free, digital learning materials. All education materials developed through the grants will be available for use by the public and other education providers through a Creative Commons licence.

In April 2013, it announced a third round of funding under the TAA – CCCT programme with grants totalling USD 474.5m bringing the total investments to nearly USD 1.5bn.

### **California open textbook legislation**

California, in September 2012, passed open textbook legislation. Governor Jerry Brown signed two bills (SB 1052 and SB 1053) that will provide for the creation of free, openly licensed digital textbooks for the 50 most popular lower-division college courses offered by California colleges. However, in June 2013, the Intersegmental Committee of Academic Senates reported to Governor Brown that a business plan sent to the office of Senator Steinberg had not had a reply and no funds had been released. This may be attributable to disputes over SB 520 (which passed the Senate), which extended the provisions of the first two bills.

The textbooks developed will be made available under the Creative Commons Attribution licence (CC BY). The textbooks and other materials are placed under a creative commons attribution licence that allows others to use, distribute and create derivative works based on the digital material, while still allowing the authors or creators to receive credit for their efforts.

In addition to making the digital textbooks available to students free of cost, the legislation requires that print copies of textbooks will cost about USD 20.

#### **Utah adoption of OER**

The Utah Open Textbooks Initiative (UTOT) began in 2010 as a result of an effort by David Wiley, a professor at Brigham Young University and the CK-12 organisation. It was funded by the Hewlett Foundation. The goal was to reduce the costs of high school science textbooks in a way that either did not affect or actually improve learning outcomes for students. This focused on open-source books from CK-12, which were given to the students as low-cost printed books, which (unlike the traditional textbooks) could be written on by the students.

In the first year these books were used by 1,200 students and in the second (2011/12) by 2,700 students. UTOT managed to cut the cost of the books by over 50% from an annual cost of USD 11.43 to USD 5.14, a saving of USD 6.29 per student, per course, per year. For chemistry, the saving was USD 5.73 and for biology USD 4.35. This includes allocated cost for the time spent by teachers modifying the material that went into the books and customising it to their local needs, which could not be done with a traditional textbook. This was done without any impact on CRT scores. Where CRT scores did rise, the teachers noted that the higher-performing students had taken advantage of the ability to highlight and write in their books. (See, "A preliminary examination of the cost savings and learning impacts of using open textbooks in middle and high school science classes", June 2012 in *The International Review of Research in Open and Distance Learning*, Vol 13, Number 3).

A later paper covering 4,000 students showed that students using open textbooks scored higher than those using traditional science books even controlling for age, gender, socio-economic status and prior science ability. As a result, the Utah State Office of Education is encouraging the use of open textbooks in more subjects, especially in the key areas of language arts, science and maths, across the whole of the state from fall 2013.

Fig. 28: Government OER initiatives around the world

Country	Jurisdiction	Tags	Status	Policy	Date
Argentina	National	Intellectual Property	Current	Gleducar policy	01/01/2010
Australia	Institution - Tertiary			University of Canberra Proposed Policy on Intellectual Property	31/07/2011
Australia	National		Current	AUSGoal - Australian Governments Open Access and Licensing Framework	2011
Brazil	National	Bill Draft law Brazil	Proposed	Projeto de lei REA será analisado na Câmara	09/06/2011
Brazil	Province / State	Bill Draft law Brazil	Proposed	Projeto de Lei REA do Estado de São Paulo	20/12/2012
China	National		Current	Chinese Quality Open Course Project	01/11/2011
China	National		Current	Construction of Internet shared courses	01/06/2012
China	National	informization	Current	Decade Plan on Development of Education Informatization from 2011to 2020	01/03/2012
China	National		Current	Establishment of National Open University	01/07/2012
Colombia	Institution - Tertiary	Acceso abierto repositorio institucional biblioteca Colombia	Current	Resolución 001de 2011	01/01/2011
España	National Institution - Primary Institution - Secondary	Eduation free software share	Current	CeDeC	10/10/2012
España	Global National Institution - Primary Institution - Secondary	Educación Lengua Matemáticas	Current	Recursos educativos para enseñanza presencial	10/10/2012
España	Global Institution - Primary Institution - Secondary	Guía profesores	Current	Publicación de una guía para la creación de recursos educativos abiertos	10/10/2012
France	Institution - Tertiary		Current	ParisTech Charter of Open Courseware and Licensing Practices	21/03/2007
Ghana	Institution - Tertiary			Policy for development and use of Open Educational Resources (OER) - KNUST	11/05/2011
Hungary	National		Current	Apertus Nonprofit Kft. – Szakmai koncepció	
Indonesia	National		Current	Higher Education Law	
Indonesia	Global	Open educational resources	Current	Global List of OER Initiatives: Indonesia Open University - TERBUKA	
Lithuania	National		Current	Provisions of the National Education Strategy 2003-2012	01/10/2003
Mauritius	National	education	Current	Education and Human Resources Strategy Plan 2008-2020	01/10/2009
Mexico	National	educacion abierta educacion a distancia ESAD normas de control escolar		Normas de Control Escolar, Aplicables a los Servicios Educativos del Tipo Superior que Imparte la Subsecretaría de Educación Superior, en la modalidad no escolarizada (abierta y a distancia)	01/01/2010
Mexico	Institution - Tertiary	UNAM educacion abierta educacion a distancia		Normativa Académica de la Universidad Nacional Autónoma de México (UNAM) Sistema Universidad Abierta y Educación a Distancia	2009
Netherlands	National		Current	Program Plan: Wikiwijs 2011– 2013	19/05/2011
New Zealand	Institution - Secondary	education	Current	Creative Commons Policy	
New Zealand	National	education government	Current	NZGOAL The New Zealand Government Open Access and Licensing Framework	05/07/2010
New Zealand	Institution - Tertiary		Current	Otago Polytechnic Intellectual Property Policy	Jun-08
Poland	National	government education k12	Current	Cyfrowa szkoła (Digital School)	03/04/2012

Source: wiki.creativecommons, Nomura research

Fig. 29: Government OER initiatives around the world

Country	Jurisdiction	Tags	Status	Policy	Date
South Africa	Institution - Primary			A Free Content and Free and Open Courseware implementation strategy for the University of the Western Cape (South Africa)	2005
South Africa	National	government	Proposed	Draft Policy Framework for the Provision of Distance Education in South African Universities (pdf)	28/06/2012
United Kingdom	National	open access funding open source	Current	JISC Terms and conditions of funding annex to JISC Grant and Contract Letters for Projects	16/12/2011
United Kingdom	Institution - Tertiary			Summary of UK HEI OER Policies from SCORE workshop, 2012	04/05/2012
United Kingdom	Institution - Tertiary	metadata intellectual property learning objects repository	Current	Operational policies for Leeds Metropolitan University institutional repository	
United Kingdom		university	Current	University of Leeds Open Educational Resources guidance	19/12/2012
United Kingdom	National		Current	Policies and Statements of the Open University	
United Kingdom	National		Current	Introduction to the UK Government Licensing Framework	29/07/2011
United States	Province / State	Bill Draft Law Texas	Proposed	H.B. 2488 Relating to open-source textbooks and other instructional materials for public schools.	19/06/2009
United States	National	government education post-secondary	Current	Applications for New Awards; Strengthening Institutions Program (SIP), 78 FR 25747	02/05/2013
United States	National	Textbooks Colleges Bill Draft Law	Proposed	S. 174 Open College Textbook Act of 2009	23/09/2009
United States	Province / State	Bill Draft law Virginia		H.B. 1940 Open Education Resource Center Grant Fund	14/01/2009
United States	Province / State	Bill Draft law		H.R. 1464 Learning Opportunities With Creation of Open Source Textbooks (LOW COST)	12/03/2009
United States	Province / State	OER government	Proposed	HB 3239: Open College Textbook Act	26/02/2013
United States	Province / State	Bill Draft Law Washington State	Proposed	S.B. 6231 Relating to open educational resources in K-12 education	16/01/2012
United States	Province / State	Law California	Current	S.B. 1052 California Open Education Resources Council	27/09/2012
United States	National	K-12	Proposed	H.R. 521 Transforming Education Through Technology Act	05/02/2013
United States	Province / State	higher-ed education california	Proposed	Open Licensing for Chancellor's Office Grants	09/09/2013
United States	System	Guide		An Expectation of Sharing. Guidelines for Effective Policies to Respect, Protect and Increase the Use of Digital Educational Resources	01/03/2010
United States	National	Grant priority OER U.S. Department of Education	Current	Supplemental Priorities for Discretionary Grant Programs for U.S. Department of Education, 75 FR 78486	15/12/2010
United States	Province / State	Bill Draft law Maine	Current	L.D.569 An Act To Support and Encourage the Use of Online Textbooks	06/06/2011
United States	National		Current	Solicitation for Grant Applications	01/01/2011
United States	System		Current	SB CTC Open Policy Open Licensing on Competitive Grants	01/07/2010
United States	Province / State	OER open educational resources Creative Commons Attribution CC BY Minnesota	Proposed	H.F. 789	21/02/2013
United States	Province / State	Bill Passed Oregon	Current	H.B. 4058A Directs Higher Education Coordinating Commission to convene work group to study strategies for and make recommendations on reducing higher education textbook costs.	01/01/2012

Source: wiki.creativecommons, Nomura research

**Fig. 30: Government OER initiatives around the world**

Country	Jurisdiction	Tags	Status	Policy	Date
United States	Province / State	Bill Draft Law Washington State	Proposed	H.B. 2336 Requiring a model policy for open licensing of courseware developed with state funds.	11/01/2012
United States	Province / State	Public postsecondary education: California Digital Open	Current	S.B. 1053 Creates the California Open Source Digital Library	27/09/2012
United States	National		Proposed	Final Priorities, Requirements, Definitions, and Selection Criteria: Supporting Effective Educator Development	11/02/2013
United States	National	bill draft law	Proposed	S. 1087 Enhancing Education Through Technology Act of 2013	04/06/2013
United States	Province / State	Bill Draft law California		A.B. 577 Open Education Resource Centers	21/02/2007
United States	Province / State	Curriculum Utah		Rule R277-111 Sharing of Curriculum Materials by Public School Educators	13/11/2009
United States	Province / State	Minnesota	Proposed	Minnesota S.F. 824 - Establishing the Open Educational Resource Council	28/02/2013
United States	Province / State	Georgia K-12 GA VS	Proposed	Georgia Virtual Learning OER terms of use	08/12/2001
United States	National	Act Senate Education Labor and Pensions House Education Labor		H.R. 3221 Student Aid and Fiscal Responsibility Act of 2009	17/09/2009
United States	National	government open access	Proposed	Fair Access to Science and Technology Research Act (FASTR)	14/02/2013
United States	Province / State	Bill Draft law Florida	Proposed	H.B. 5201 Postsecondary Education Funding	01/07/2010
United States	National	National Training & Education Resource	Current	Terms of Service - NTER Learning Portal	01/07/2012
United States	Province / State	government open access	Proposed	S.B. 1900 Illinois Open Access to Research Articles Act	15/02/2013
United States	Province / State	Bill Draft law New York		A.09162 An act to establish the taxpayer access to publicly funded research act	31/01/2012
United States	Province / State	Bill Draft law	Current	H.B. 1946 - Regarding higher education online technology.	16/04/2009
United States	Province / State	Bill Draft law New Hampshire		H.B. 418 relative to the use of open source software and open data formats by state agencies and relative to the adoption of a statewide information policy regarding open government data standards.	06/01/2011
United States	Province / State	OER Council Open Textbooks	Proposed	Virginia Open Education Resources Council and the Virginia Digital Open Source Textbook Library	09/01/2013
United States	Province / State	Bill Draft law Texas		H.B. 6 Instructional Materials Allotment	01/09/2011
United States	Province / State	Bill Draft law		H.B. 1941 Patent and copyright policies; requires Secretaries of Administration and Technology to establish	08/04/2009
United States	National	TAACCCT DOL Dept. Labor Dept. Education CC BY	Current	Department of Labor Trade Adjustment Assistance Community College and Career Training grant program	30/03/2010
United States	Province / State	Bill Draft law	Current	H.B. 1025 - Requiring disclosure of certain information relating to higher education course materials.	26/07/2009
United States	Province / State	Bill Draft Law Washington State	Proposed	S.B. 6460 Requiring a model policy for open licensing of courseware developed with state funds.	24/01/2012
United States	National	OSTP Office of Science and Technology Policy public access data research publications	Current	OSTP Directive on Increasing Access to the Results of Federally Funded Scientific Research	22/02/2013
United States	National	Dept. Education CC BY	Current	Comprehensive Centers Program: Final Priorities, Requirements, and Selection Criteria	06/06/2012
United States	Province / State	Bill Draft law California	Proposed	S.B. 1053 California Digital Open Source Library	08/02/2012
United States	Province / State		Current	S.B. 1052 An act to amend Sections 67302 and 67302.5 of, and to add Section 66409 to, the Education Code, relating to public postsecondary education.	31/08/2012
United States	Province / State	Bill Draft Law	Current	H.B. 2337 Regarding open educational resources in K-12 education.	11/01/2012
United States	National	Bill Draft Law	Proposed	H.R. 4575 Open College Textbook Act of 2010	01/02/2010

Source: wiki.creativecommons, Nomura research

# The use of OER by faculty and administrators

OER are already being used in schools and colleges in the US, but usage is set to increase significantly in the next few years as OER quality improves and acceptance rates rise.

In a study published by Babson Survey Research Group institutional academic leaders were asked questions on their knowledge, use and opinion of OER, and surveys were also conducted asking faculty in higher education and academic technology administrators their opinions of these resources.

The key points:

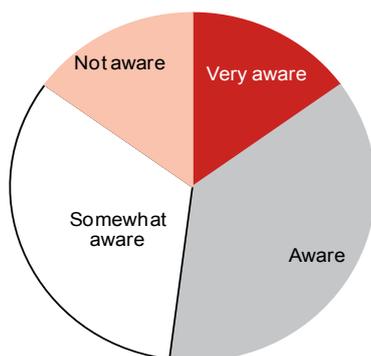
- Awareness of OER among chief academic officers is high with over 50% aware or very aware.
- Over 50% of colleges use OER in some form, but this overstates usage across the board as the depth of usage by faculty in each institution is not high.
- OER is seen as having value – 57% of academic leaders agree it has value.
- Around two-thirds of academic leaders see OER as saving time and money for their college.
- Individual faculty will be the most important decision-makers on the pace of OER adoption.
- Concerns on the adoption of OER are surprisingly low among chief academic officers, reflecting the improving quality of offerings or with an eye on money saving. The main objection is the scattered nature of the resources and the desire for a one-stop shop.
- Perceived barriers among faculty are higher, but mainly focus on time spent to find them.

The key results from the data collected are as follows.

**Most academic officers at least ‘somewhat aware’ of OER and half are ‘Aware’ or ‘Very aware.’**

Slightly over half are aware or very aware of OER, and about one-third is only somewhat aware. However, there is wide variability as what is perceived as open education resources. Differences are in content vs software & services or open vs free.

**Fig. 31: Chief academic officer awareness of open educational resources – fall 2011**

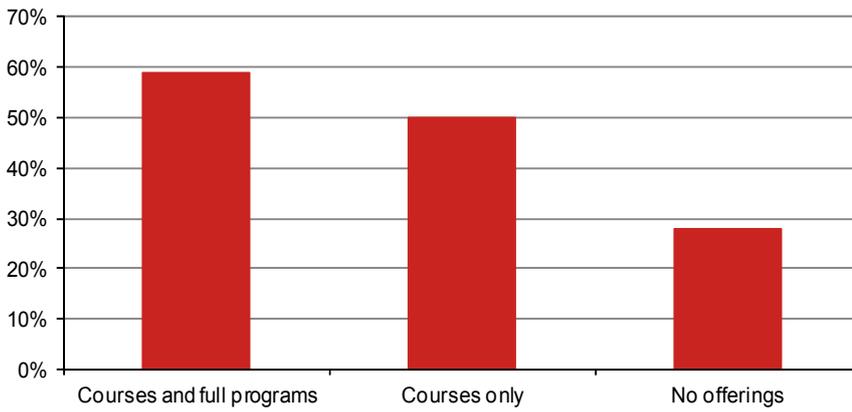


Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

The level of awareness differs by whether the institution offers online courses and full programmes and less by the type and size of the institution.

At institutions with no online offerings, 28% of academic officers were aware or very aware vs 59% at institutions that offer online courses and full programmes. This is possibly because online offerings have often been developed recently and will lead to more exposure to both content and technology offering in OER.

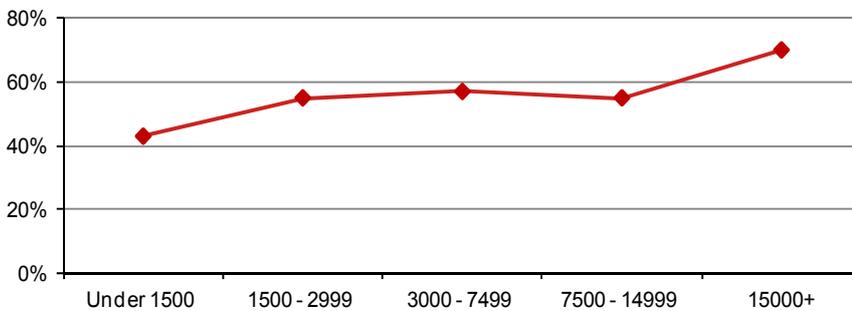
**Fig. 32: Chief academic officers aware or very aware of open educational resources by online offerings – fall 2011**



Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

The awareness increases somewhat with the size of the institution, but the differentiation is less pronounced. At institutions with fewer than 1,500 students enrolled 44% were aware or very aware vs 69% at institutions with over 15k students enrolled.

**Fig. 33: Chief academic officers aware or very aware of open educational resources by total enrolment – autumn 2011**

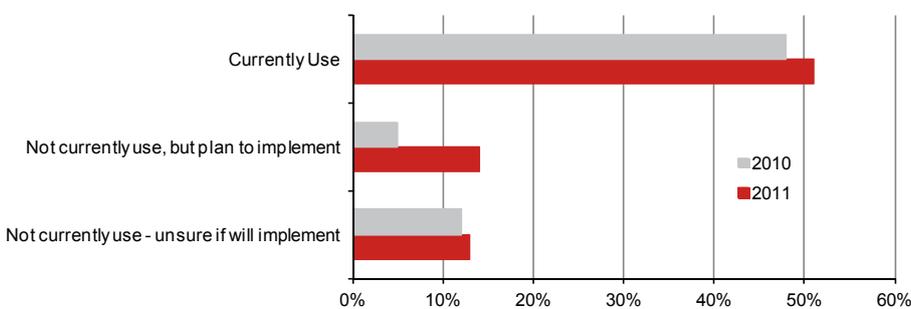


Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

**Half of the institutions have some courses that use OER materials**

The depth of usage of OER materials is not high now, even if the proportion of colleges using them is quite high. Half of chief academic officers say that any of the courses at their institution use OER materials. However, the test for an institution to count itself as an OER user is low, which means that even a single course with OER material usage leads to a positive response. The percentage not currently using OER, but planning to do so rose from 5% in 2010 to 13% in late 2011. It is likely it would have increased again in 2012 as awareness of OER has increased.

**Fig. 34: Use of open educational resources in online courses fall 2010 and 2011**

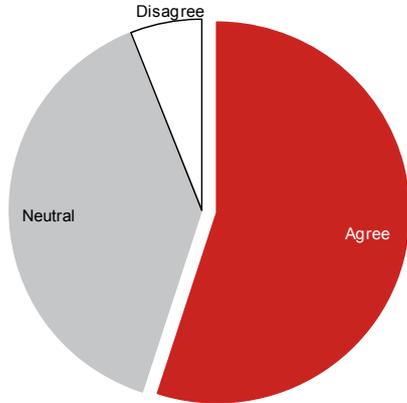


Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

**OER are perceived to be of value to the institution**

In a survey in 2011, 57% academic leaders agree that OER will have value for their campus, and less than 5% disagree. There is little difference in perceived value by size of institution. Also the gap in perceived value of OER is less between institutions with no online presence vs those offering online courses and full programmes. However, there has been little growth in perceived value between 2009 and 2011 except in the for-profit colleges where there has been a strong increase from 50% to 72%.

**Fig. 35: Chief academic officers: open educational resources will be of value for my campus – fall 2011**

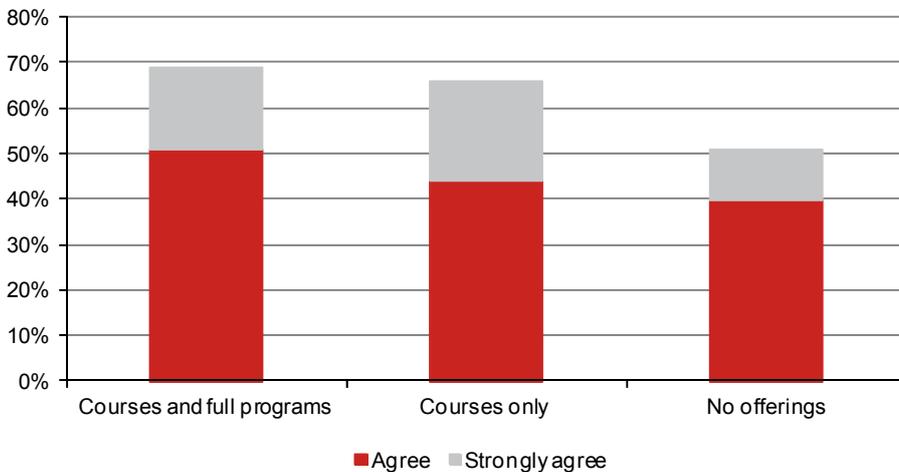


Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

**OER have potential to reduce costs and save time**

Chief academic officers see OER as having the potential to reduce costs for their institution with nearly two-thirds of them agreeing. Again, agreement is higher in institutions with online presence vs those not offering online programmes.

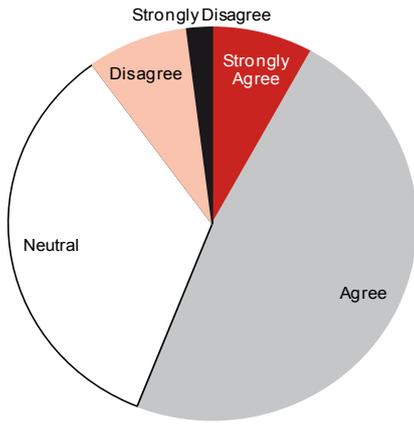
**Fig. 36: Chief academic officers: open educational resources have the potential to save my institution money by type of online offerings – fall 2011**



Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

One possible reason why academic leaders believe they will save money is the wide agreement that open education resources will save time in the development of new courses.

**Fig. 37: Chief academic officers: open educational resources can save time in developing new courses – fall 2011**

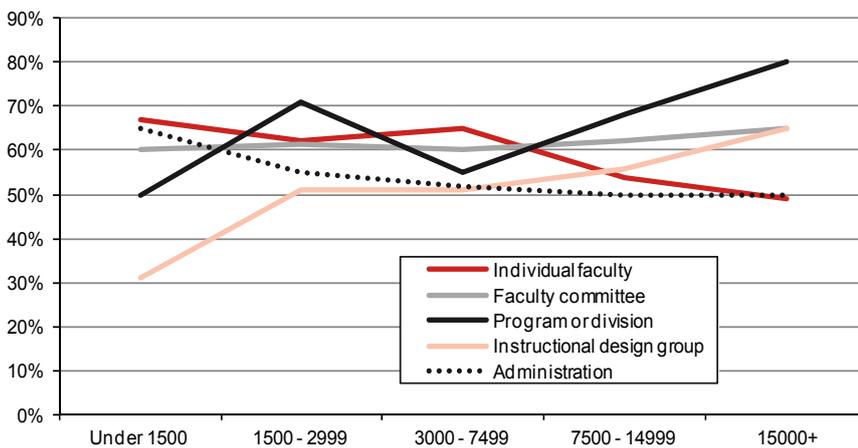


Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

**Although adoption of OER will be decided by broader consensus, the primary role will be of faculty and administration**

Survey results indicate that academic leaders believe that individual faculty developing courses, faculty committees, programmes or divisions, and the administration all have a role in a decision to adopt open education resources.

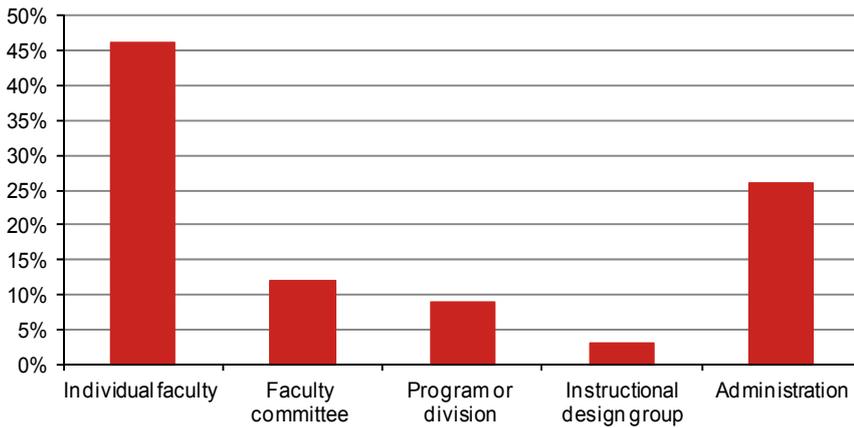
**Fig. 38: Has a role in decision to adopt OER – fall 2011**



Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

However, only two groups, individual faculty members and the administration, are expected to play the primary decision-making role in the adoption of open-education resources.

**Fig. 39: Primary role in decision to adopt OER – fall 2011**



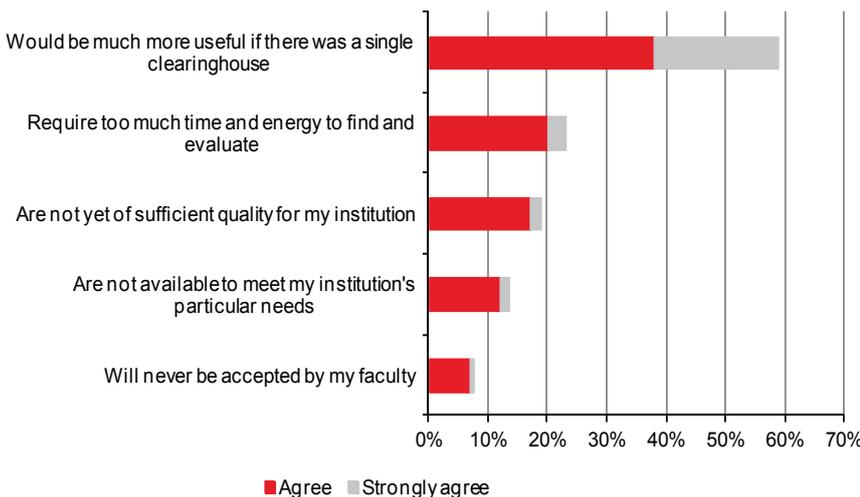
Source: Babson Survey Research Group (Nov 2012), “Growing the Curriculum: Open Education Resources in U.S. Higher Education”, Nomura research

**Potential concerns to adoption of OER are low**

Although there is wide consensus among academic leaders that OER will add value to institutions, academic leaders do have some concerns. Over half of academic leaders agree or strongly agree that OER would be more useful if there was a single clearing house. However, this does not indicate that they will require a single clearing house, but only that this would be useful. There are some major OER providers with enough materials in one place such as edX, C K12, Connexions or oercommons. Other concerns include time and energy to find and evaluate OER, quality of OER, OER meeting institutions’ needs and acceptance by faculty, but level of concern for these is rather low, typically 20% or below.

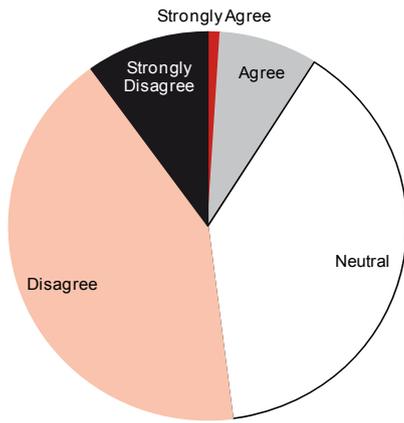
Other barriers can be that some faculty have been using the same books for many years, so changing to OER can mean redesigning lectures. In addition, some OER lack some of the supplements provided by publishers, but they can be modified more easily and tailored to the class level or ability and they can be updated constantly without the need for new editions.

**Fig. 40: Chief academic officers: opinions about open educational resources – fall 2011**



Source: Babson Survey Research Group (Nov 2012), “Growing the Curriculum: Open Education Resources in U.S. Higher Education”, Nomura research

**Fig. 41: Chief academic officers: open educational resources will never be accepted by my faculty – fall 2011**

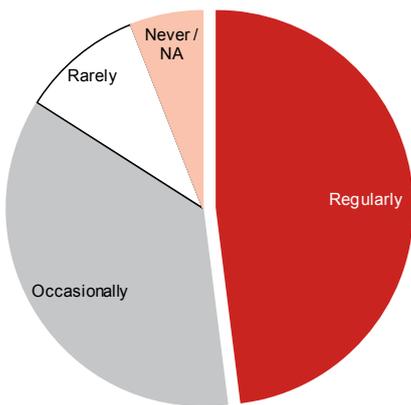


Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

**Adoption of OER by Faculty and key barriers**

OER materials are generally digital in nature. Therefore, adoption by faculty would be easier if they are already making use of digital materials. These include simulations and videos. About 83% of the faculty surveyed said that they currently use digital materials and another 11% use it rarely. This is encouraging for OER adoption.

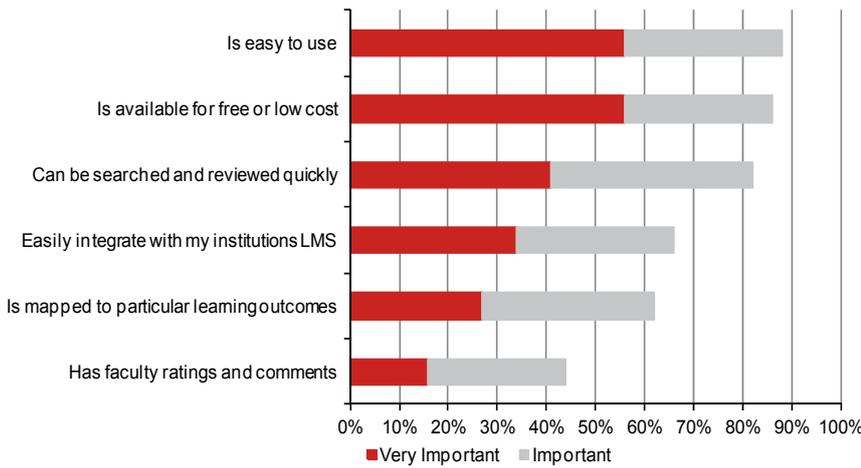
**Fig. 42: Faculty: used digital materials such as simulations and videos in course presentations**



Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

When asked about the criteria of selecting potential digital resources they indicate, cost (88%) and ease of use (86%) are most important (important or very important) for selecting online resources. The ability to search and review the material (82%) is also important for most.

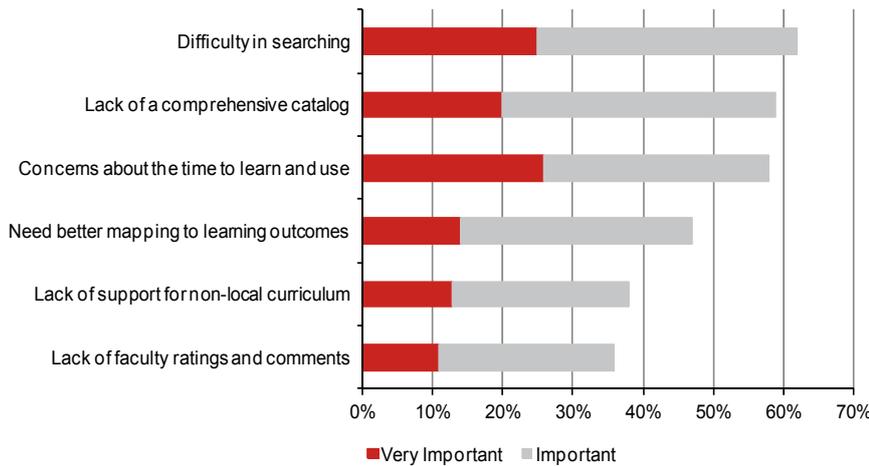
**Fig. 43: Faculty: criteria for selecting online resources**



Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

Among the barriers for adoption of OER, faculty rate the time and effort to find and evaluate are consistently listed as the most important barriers by faculty to the adoption of open education resources. Over half report that lack of comprehensive catalogue as an important barrier. The need for a better understanding of the efficacy of OER on learning outcomes was also seen as important, although only 13% said it was very important.

**Fig. 44: Faculty: barriers to adoption of OER**



Source: Babson Survey Research Group (Nov 2012), "Growing the Curriculum: Open Education Resources in U.S. Higher Education", Nomura research

**The Berkeley Study on Faculty Attitudes to OER**

Defenders of the traditional publishers against OER have cited an older study from October 2009 by Diane Harley at the University of California Berkeley called "Affordable and Open Textbooks: An Exploratory Study of Faculty Attitudes". This was funded by a grant from the Hewlett Foundation and aimed to see what success the Student Public Interest Research Group had had in changing faculty attitudes to adoption of OER in colleges.

This took place at a time when OER quality was a fair bit lower than today, and funding was less generous and awareness was much lower. Nevertheless, it does not show that faculty remain opposed to OER adoption as the publisher lobby claims. It does show faculty in general take a nuanced position on OER, most being perfectly willing to use it if quality is high enough and it meets educational standards. The most important findings are summarised below:

- Faculty are independent thinkers, most of whom want to do the best for their students.

- College faculty and their students have a diverse range of needs, as do their students, meaning no one size fits all solution is likely for textbooks – the future will not belong entirely to the content produced by the publishers nor to OER. The top-down adoption model of K-12 is resisted by college professors.
- All electronic solutions were not seen as likely by the survey as many students still wanted a printed copy to rely on or write on. This is not specifically an OER/non-OER point.
- Just over 40% of faculty taking the survey signed a statement supporting PIRG and OER prior to taking it and just over 50% did not sign, but 26% of this group did sign after taking the survey.
- Of those who signed before the survey, 85% said textbooks were too expensive and 68% believed in sharing knowledge as a matter of principle.
- Of those who did not sign, unwillingness to use OER was low (21%) and almost matched by those saying they did not sign as they did not want their name accessed online (19%).
- Most faculty (85%) had not assigned any open textbooks prior to the survey.
- Of those who said they did not want to use open textbooks (21% or 11 respondents), the most popular reason (64%) was because they had a textbook that already worked. Nobody said it was because there was not an open book for their course. Only 9% (1 respondent) said it was because they wrote textbooks and were worried they would not receive any royalties. Some 36% said they did not trust the quality of the content and the same amount said they rely on their own supplements.
- **One of the most telling responses was that 95% of respondents (209) said they would be willing to assign an open textbook if it matched the content and quality of the traditional textbook.** No significant differences in responses were seen depending on institutional affiliation, publication experience or whether they signed the PIRG statement or not.
- The main features identified as determining whether an open book would be assigned was quality (95%), quality of graphics (70%) and flexibility in inclusion of chapters and materials relevant for the professors' courses, followed by ability to integrate the professors' own supplementary materials including slides, homework and testbanks (42%).
- The features of traditional textbooks that most needed to change were lower cost (65%) and issuance of new editions only when really necessary (58%).

### The Utah study on the use of OER

A detailed study more recently about the actual use of OER was the survey in 2012 of users of Project Kaleidoscope (PK). Again sample size was limited to 125 students and 11 faculty from seven colleges. PK involved eight community colleges, mostly in California, serving 100,000 students of whom 69% were designated as "at risk". PK affected 2,000 students and 40 teachers using OER. This study: "The cost and quality of open textbooks: perceptions of community and college faculty and students" appeared in *First Monday*, a peer reviewed journal. Vol 18, number 1, 7 January 2013, authored by TJ Bliss, John Hilton, David Wiley and Kim Thanos.

- 82% of teachers spent more time preparing with OER than with old texts, although it was not known whether this was different from extra time spent with any new book introduction.
- All the teachers not involved in OER textbook production said they were the same quality as traditional textbooks. All teachers said they would be very likely to use OER books in the future.
- 70% of the student respondents received grants covering tuition.
- For the PK courses 70% did not purchase any textbooks. Some 83% of these said this was because they were given free OER texts online.
- Only 3% felt these texts were of lower quality than traditional books (mostly owing to lack of a printed copy), 56% said they were of the same quality and 41% said they were better quality. Some 64% said they used PK texts at least 2-3 times per week.

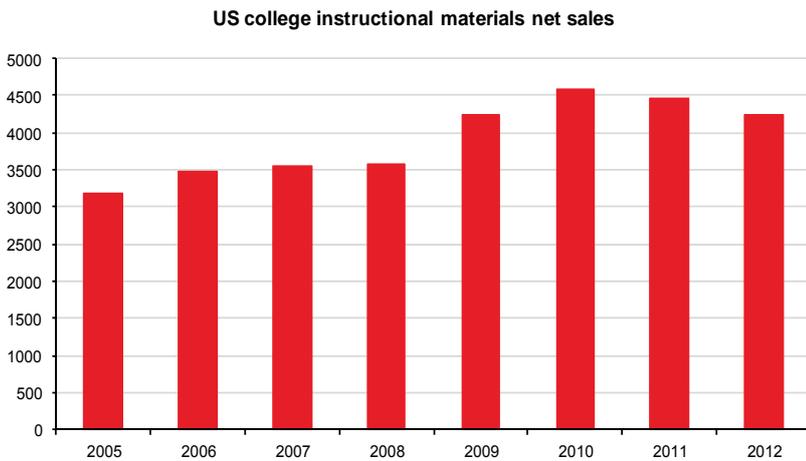
- 52% preferred the online format, 31% had no preference, and 17% would have preferred a printed book. Some 77% said they would be likely to take a class with online OER texts again.
- When asked to rate the open books overall, 75% had a completely positive response, 14% had a mixed response and 10% had a completely negative response (including screen fatigue and internet access issues).

# North America education market, Pearson presence and digital offerings

## Higher ed

The Pearson higher ed business is the largest textbook publisher and related material publisher for colleges and universities in the US. It covers all disciplines under the brands **Prentice Hall**, **Addison Wesley**, **Allyn & Bacon**, **Benjamin Cummings** and **Longman**. The professors select the course books that the students purchase online or in the college bookshop. Over 50% of its books are accompanied by homework and testing tools. It also produces study guides and course management systems that allow the professors to create online courses. E-textbooks are sold on a subscription basis, and there is a custom publishing business to help professors produce books and materials specially adapted to their courses.

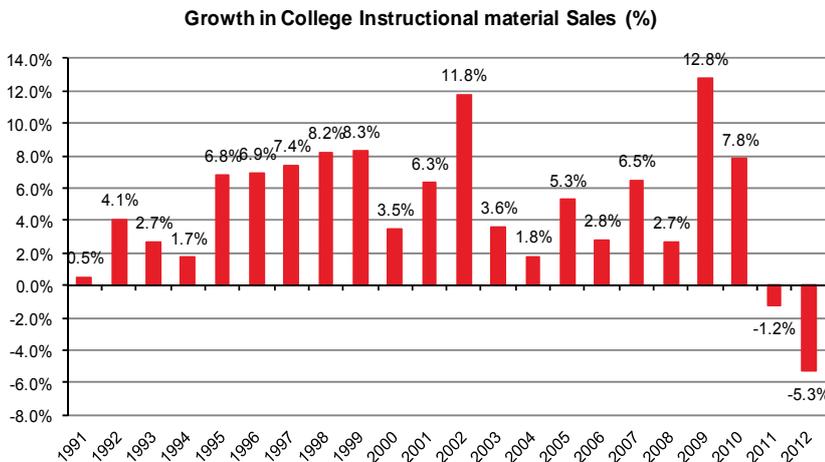
**Fig. 45: US higher ed instructional material sales, 2005-12 (USD m)**



Source: AAP, Educational Marketer, Nomura research

In 1H13, the higher ed market was down 6.5% according to The Association of American Publishers (AAP). In FY2012, it was down 6%, and in FY2011, the US higher Ed market was slightly down on 2010. In both FY2012 and 1H13, college enrolments were down 2% owing to rising employment rates, state budget pressures and regulatory changes in the for-profit sector. Growth in public colleges was offset by declines in enrolment at for-profit colleges because of changes in federal regulations and changes to loan criteria.

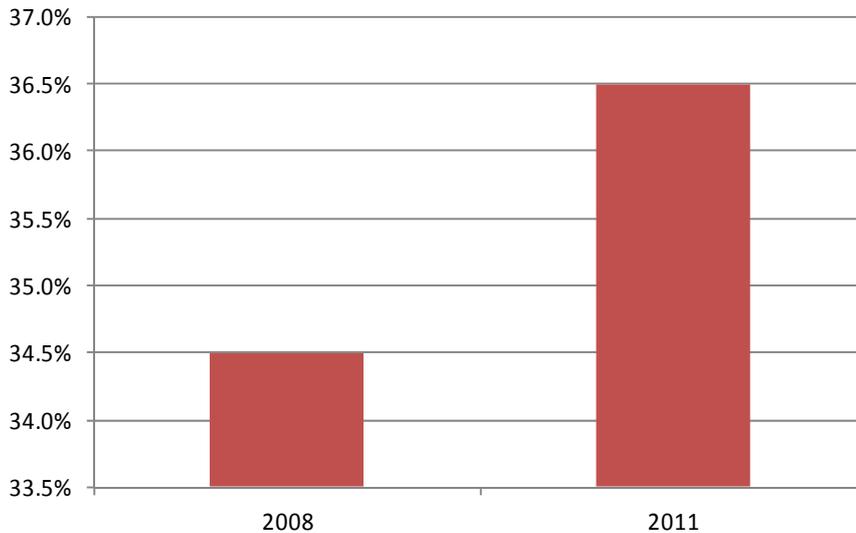
**Fig. 46: Higher ed market growth (%)**



Source: AAP, Educational Marketer, Nomura research

Pearson gained share owing to its lead in investment in authors and bookplate (increasing every year except 2011) as well as its lead in technology products and customisation. It claims to have grown faster than the US higher ed market for the past 14 years.

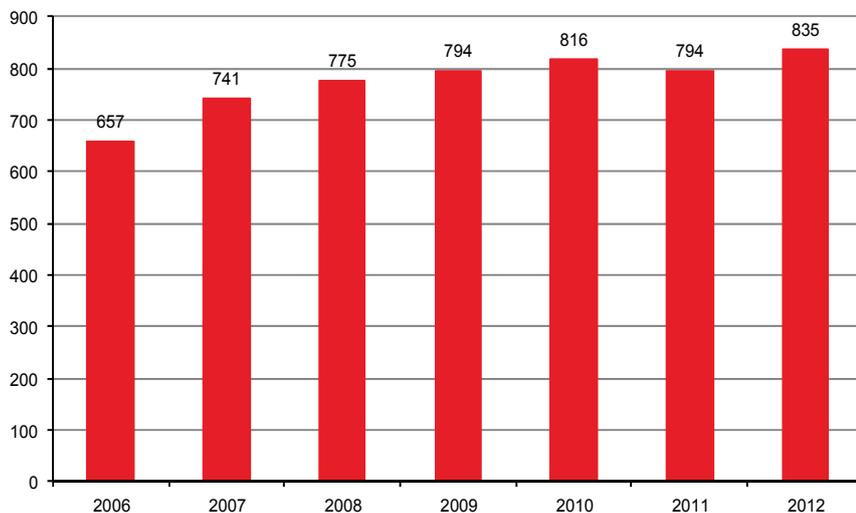
**Fig. 47: Pearson market share for US school and higher ed**



Source: Company data, AAP, Nomura research

Given Pearson’s technology lead and the capital constraints on competitors such as McGraw Hill and Cengage (which has net debt/EBITDA of c7.6x), it is hard to imagine that the company will not continue to gain share against its traditional publishing peers. McGraw Hill Education was sold to private equity. It still carries a sizeable amount of debt (Net 1<sup>st</sup> Lien ratio of 3.4x), but not as much as Cengage.

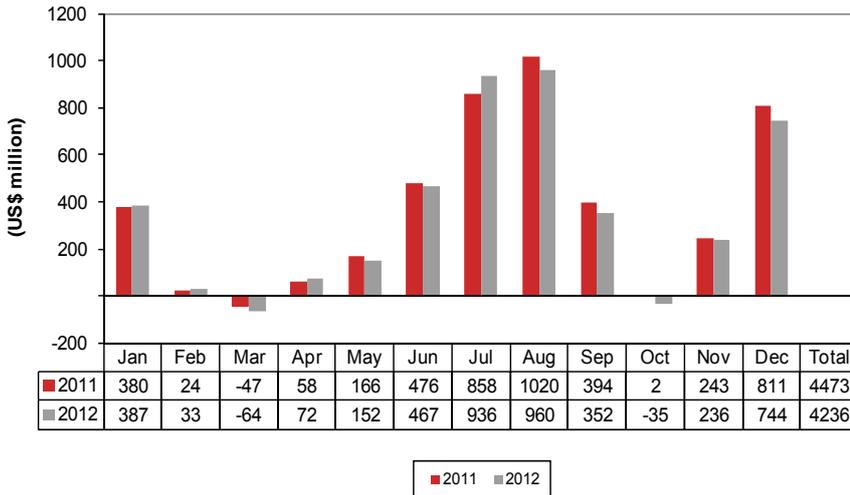
**Fig. 48: Pre-publication and authors’ advances (USD m)**



Source: Company data, AAP, Nomura research

Pearson does not now break out its margins for Higher Ed, assessment, school and Canadian businesses. We estimate that FY2012 organic growth in higher ed was -3% with actual growth of -2%. We estimate that margins increased from 26% to 28% and that there was a 4.5% organic increase in profit. In 1H13, Pearson’s higher ed business had higher sales owing to consolidation of Embanet and market share gains as well as later second-semester buying. We estimate organic growth was -3%. Growth should deteriorate in 2H13 as this effect reverses.

**Fig. 49: US higher ed instructional material sales**

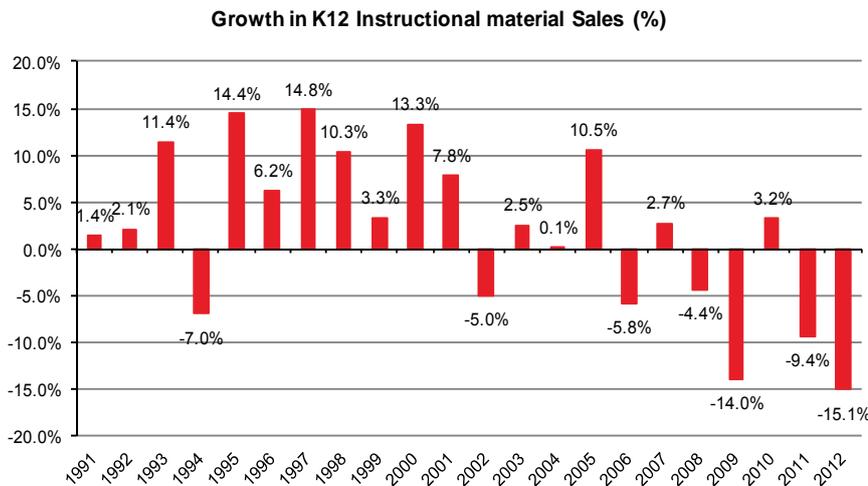


Source: Educational marketer, Nomura research

### School

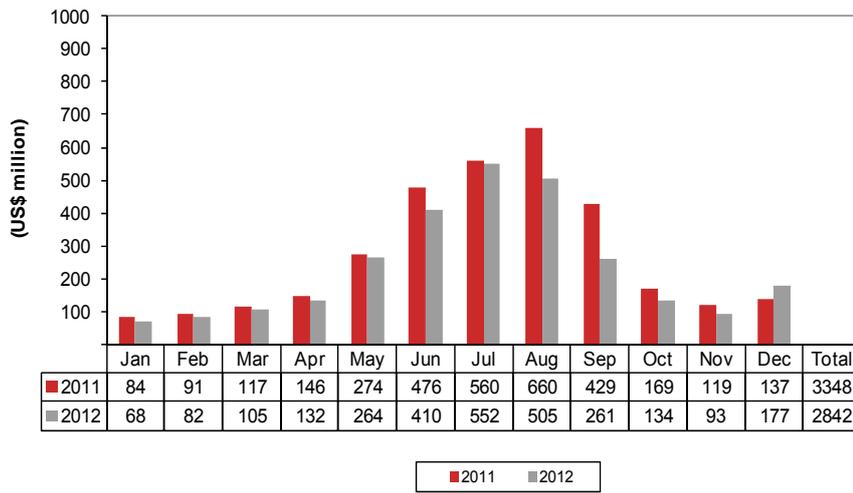
In school, the market was down 15% in 2012 and flat in 1H13, according to the AAP. We estimate organic growth for Pearson in school was -11% in 2012 and flat in 1H13. Pearson school was flat in reported terms in 1H13. Pearson continued to cite state budget pressure, Common Core delays and the sequester for tough market conditions, even though flat market growth was a big improvement on mid-teens declines in 2012.

**Fig. 50: US School market growth (%)**



Source: AAP, Educational Marketer, Nomura research

**Fig. 51: US School instructional material sales**



Source: Educational marketer, Nomura research

## Pearson's digital services

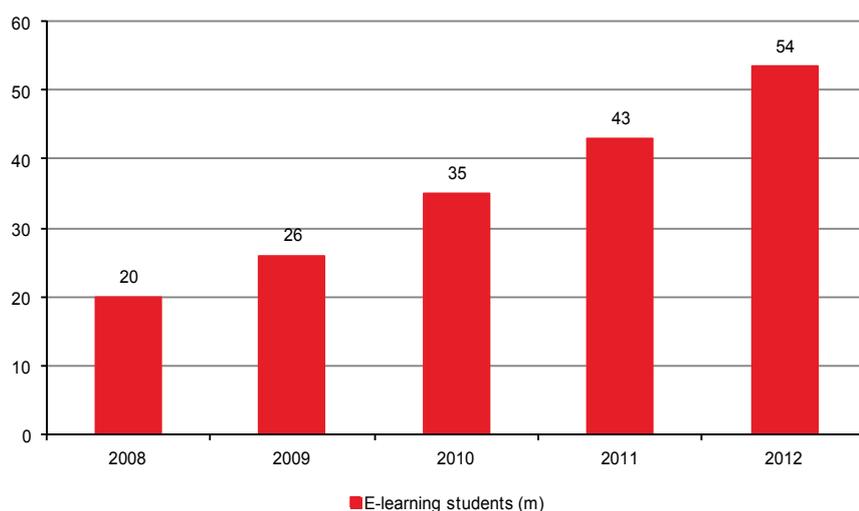
The company has a wide range of digital products in both school and higher ed.

**Fig. 52: Pearson digital learning services**

Students served							
Digital Learning services	2008	2010	2011	2012	CAGR		
MyLabs	3.6M	6.3M	7.8M	8.5M	24%	Higher Education	Assistance with student homework
SuccessNet	3.7M	6.1M	6.2M	7.5M	19%	School	Web-based application with activities for teachers, administrators, and students
PowerSchool	6.1M	9.4M	10.0M	12.3M	19%	School	Web-based student information system
LearningStudio	1.1M	2.6M	2.8M	2.9M	27%	Higher Education	Online education platform
PearsonAccess	1.0M	3.7M	5.7M	6.6M	60%	Higher Education	Web-based assessment and information management system
AIMSWeb	2.2M	3.9M	4.1M	4.1M	17%	School	Web-based assessment data management and reporting system
SuccessMaker	2.2M	2.8M	3.1M	3.2M	10%	School	Reading, speaking and mathematics training
Schoolnet	N/A	N/A	3.2M	8.3M	-	School	Education software linking instruction with assessment
Connections	N/A	N/A	33K	41K	-	School	Virtual Schools
<b>Total</b>	<b>19.9M</b>	<b>34.9M</b>	<b>42.9M</b>	<b>53.5M</b>	<b>28%</b>		

Source: Company data, Nomura research

**Fig. 53: North America digital learning services students (m)**



Source: Company data, Nomura research

In higher ed, the key products are **MyLabs**, which improves learning and test scores, **Learning Studio** and **Pearson Access**. The company has also developed enterprise support for colleges. The first partnerships are with Arizona State University Online and Ocean Community College. Other partnerships have been set up with North Arizona University and Calstate.

Other main products are Schoolnet (individualised instruction), Powerschool (timetable and attendance management) and teacher development.

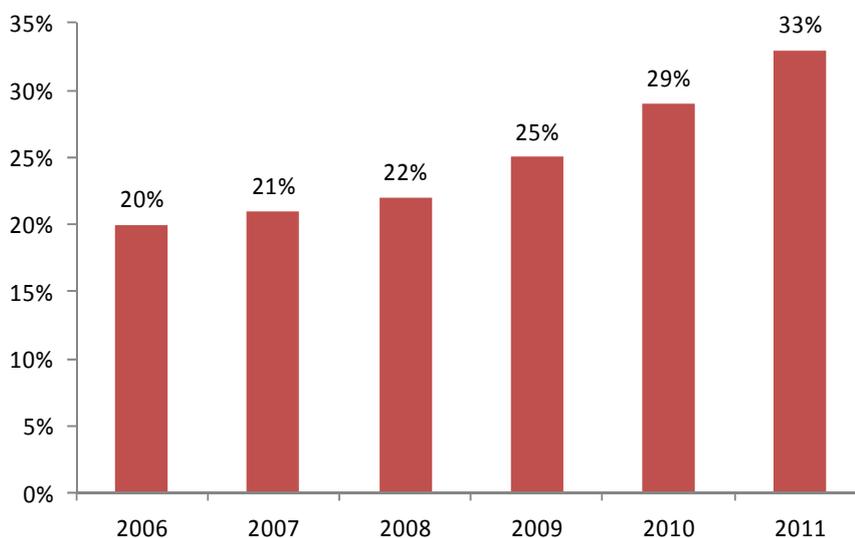
Pearson has established a trial partnership with Apple in the LA Unified School District. This has three phases, the trial in 47 schools serving 30k students) starting now, an additional 200 schools in January 2014 and the rest (total 786, serving 650k students) in 2014/15. Each iPad provided costs USD 678, which is about USD 80 more than in stores because it will be loaded with Pearson Common Core courses, iWork and other third-party apps. Pearson says the economics are favourable compared with traditional book economics, but does not give details.

MyLabs has been instrumental in driving digital growth for the North American education business and has helped margins to increase; the incremental cost from adding more students is low compared with an analogue textbook. Growth between 2008 and 2011 in MyLabs was 29%. Most MyLabs products cost around USD 50, although when they are bundled with books they are priced much lower than this. In 2012, around 8.5m students in North America were served by the product. However, in 2012 growth slowed to 11% (12% for graded submissions) from 22% in 2011. In 1H13, growth in registrations in North America slowed to 7%. Slowing growth at MyLabs is inevitable as the base of users becomes bigger, and this is likely to limit margin upside and could become an issue if growth slows further. MyLabs already has penetration of about 20-25% of the US college population numbering c20 million, given MyLabs customers often purchase more than one product. Globally submissions are up c30%.

Since June 2012, more subjects have been added to MyLabs, which now covers 11 subjects. In autumn 2012, Pearson added biology, anatomy, chemistry, physics and finance and accounting. The focus is on the intro college courses or 'gateway' courses. The company is partnering with Knewton Technology for data analytics, which allows identification of patterns of student success or failure so that courses and texts can be adapted to help them achieve better outcomes.

In 1H13, there were also 29,000 students registered with Arizona State Online and Ocean Community College, up from 21,000 a year ago. Embanet enrolments were up by 7% to 22,000.

**Fig. 54: Pearson Group: digital sales penetration**



Source: Company data, Nomura research

In 2012, we estimate that digital sales accounted for 37% of the total (with services being an additional 13%) and we were told they were 17% at Penguin. We have assumed that in School and Professional digital is fairly low, under 20% (although services in Professional could be higher). Assessment is nearly all digital we have assumed, although we do not know how much is scanning of paper tests into a PC and how much is tests taken on PC, which is why the company often combines digital and services. This leaves higher ed at around 50% digital because of MyLabs and e-college and similar products. It also still leaves a significant amount of revenue in analogue textbooks (around 80% of school revenue and 50% of higher ed revenue), and even including services, analogue revenue is around 50% of group revenue. Given that analogue products are highly priced, this creates risk around the transition as prices fall, notwithstanding the savings on lower print and distribution.

**Pearson's response to OER – OpenClass and Project Blue Sky**

OpenClass, the free self-service learning management system, was installed in 1,300 K12 institutions in 2012 (primary and secondary education), and US colleges and over 1,000 worldwide, serving around 100,000 users.

As part of OpenClass, Pearson launched a system called Blue Sky in November 2012, which combines free OER with Pearson material enabling teachers to create customised courses materials. OpenClass Exchange, which includes OER courses from the Open Course Library (set up and funded by the Gates Foundation and the Washington State Legislature), was launched later, and has a catalogue of 650k items. This is not the first attempt by a publisher to integrate OER with paid materials as MindTap from Cengage has been doing this for several years.

Blue Sky is based on the Gooru Learning technology platform, which was developed by Prasad Ram a former engineer at Google who left to form the non-profit educational start-up Ednovo. As well as Pearson content, Blue Sky takes content from c25 open-source OER databases. An article from e-Literate (20 November 2012) quotes a Pearson employee as saying it will not undermine the company charging higher prices for textbooks as “we clearly believe our content is superior to OER...but if we can't compete effectively we will have a bigger problem”.

Blue Sky will offer some paid materials, but if they are more than USD 30, they are unlikely to be widely adopted most OER experts believe. Blue Sky may improve discoverability for OER, but others are also in with a shout. Blue Sky could create internal conflicts, with a Pearson sales force that is focused on selling high-priced textbooks and sustaining the inertia in the educational publishing market. The sales force may not like the transparency between paid and free content that Blue Sky might allow.

## Digital offerings of peer publishers

### News Corporation – Amplify

News Corporation's education business is an independent subsidiary, Amplify. It is an education technology business aligned to the K-12 education market. Founded in 2011, Amplify, is built on the foundation of an acquired business Wireless Generation (acquired in 2011 for USD 390m), that provided mobile assessments and instructional analytics to schools across America.

Amplify has supported more than 200,000 educators and 3 million students in all 50 US states as they begin their digital transition. Amplify enables teachers to manage whole classrooms and, at the same time, empower them to offer more personalised instruction, so that students become more active, engaged learners. Its digital products enable data-driven instruction, mobile learning and are setting the standard for next-generation digital curriculum and assessment.

In 2012, revenue was USD 100m, with 22% average annual growth rate over the past five years. Of the USD 673bn K-12 expenditures, USD 40bn is purchased products and services and of this USD 17bn is instructional materials and technology. News Corporation addresses this USD 17bn market. News Corp is investing USD 180m in FY2013 and a similar amount in FY2014 with major investment in developing the digital curriculum and tablet.

Amplify is organised in three businesses. *Amplify Insight* was founded in 2000 as Wireless generation. It is an analytics and assessment products and services business. It aims to make education smart and to customise education delivery. *Amplify Learning* is a cross-platform, core curriculum. It does not provide books, but complete curriculum in reading, maths and science. It includes lessons, digital games, simulations and media. *Amplify Access* is a tablet-based distribution platform optimised for K-12 education and not meant for consumers. The tablet is based on the Android platform. Apps are organised around a series of notebooks and subject market. Content need not be limited to Amplify only. Rollout in Guilford County in North Carolina underway and 21,215 tablets are to be provided at the beginning of the 2013-14 school year.

The Amplify Tablet is preloaded with third-party education content and tools, including: CK-12 e-textbooks, Encyclopaedia Britannica, Khan Academy videos, Merriam-Webster Dictionary, Google Apps for Education, Desmos graphing calculator, EverFi's digital literacy curriculum, Project Noah science tools, public domain e-books and education-specific search tools that allow teachers and students to find multimedia resources aligned to the Common Core State Standards. The Amplify Tablet includes a web-based enterprise device management platform designed for districts and schools. The platform allows administrators to provision, configure, lock or wipe an entire fleet of devices over the air. Wi-Fi Another version Amplify Tablet Plus with cellular connectivity is also available.

### McGraw Hill Education

McGraw Hill education key digital offerings are McGraw-Hill Connect, McGraw-Hill LearnSmart, Tegrity Campus, McGraw-Hill Campus and ALEKS.

- *McGraw-Hill Connect*, launched in 2009, is an all-digital teaching and learning exchange for higher education. Just six months after its launch, Connect was being used by more than 1.2 million teachers and students across the US.
- *McGraw-Hill LearnSmart*, launched in 2012, offers an adaptive learning technology, directly to students. The LearnSmart Advantage adaptive learning suite includes SmartBook, an adaptive e-book. SmartBook adapts textbook material to suit the paces and grasp of individual learners. SmartBooks are priced at USD 75-100 each, broadly in line with standard e-books, while the company's education software called LearnSmart currently costs USD 25-30.
- *Tegrity Campus* provides an automated service that captures class lectures for college students, and was acquired in 2010. It captures lectures from audio recordings of the professor's voice to accompanying slides or videos shown on the presentation screen. These complete recordings are captured for replay and accessible to students throughout the semester whenever they are studying or reviewing concepts.

- *McGraw Hill Campus* is a service that enables McGraw-Hill to provide universal access to its digital content and tools directly from any campus portal. McGraw-Hill Campus allows colleges to integrate McGraw-Hill's content and course solutions with any learning management system. More than 325 higher education institutions now have access.
- *ALEKS*, an artificially intelligent, adaptive learning programme distributed by McGraw-Hill Education in higher education for math. Subscription is USD 20/month for individuals.

### **Cengage Learning**

- In FY2012, Cengage Learning domestic digital product sales comprised 37.5% of domestic revenue.
- During FY2012, the number of student activations of homework solutions grew to approximately 3.4 million, an increase of 25%. As of 30 June 2012, value-added digital solutions were available for approximately 73% of textbooks.
- In fiscal year 2012, Cengage began a rollout of MindTap, which it expects to become its core digital platform. Legacy digital platforms, which will be incorporated into the MindTap platform over time include Aplia (a web-based solution that enables instructors to incorporate homework and related coursework across many academic disciplines), SAM (a proficiency-based assessment and training tool for computing) and OWL (an online learning system for chemistry).
- *College offerings*
  - *Homework Solutions*. Cengage Learning provides online homework solutions that combine content with digitally assignable and gradable work for students. These successful discipline-specific platforms include solutions such as Aplia, SAM and OWL, are to be integrated into the MindTap platform.
  - *Customised Courses*. Online course programmes.
  - *MindTap* – MindTap is an interactive suite of digital learning solutions designed to engage students and offer instructors choice in content, platforms, devices and learning tools. MindTap incorporates customisable “MindApps” developed by Cengage Learning and independent developers that actively encourage students to interact with their course content, as well as their peers and instructors. MindTap is being developed as a device agnostic platform that can be used on desktops, laptops, tablets or mobile phones.
- *Research* – Cengage has digitised substantially all reference content, enhanced with interactive digital tools, and derives approximately 70% of revenue in the research market from digital products. Their flagship product, Gale, has aggregated the world's largest online collection of magazines, journals and newspapers (more than 20,000 titles). Gale sells to many libraries and library consortia and also licenses its content with participants including Amazon.com, Inc., Dow Jones & Company, Inc., Lexis Nexis, Thomson West and Bloomberg.
- *Career* – Offers collections of digital media and online courses for career studies across major disciplines including beauty and wellness, automotive, business, culinary, hospitality, travel and tourism, emergency services and paralegal studies. The sales force is primarily focused on sales to for-profit career colleges.
- *School* – In 2011, Cengage Learning acquired the National Geographic Society's digital and print school publishing unit and their offerings to the market have been enhanced by ELT products, Science series, elementary school level science curriculum, National Geographic Explorer! Magazine.

### **HMH (Houghton Mifflin Harcourt)**

HMH's presence is in two primary areas: pre-K-12 educational content and resources for institutions and consumers; and trade publishing.

- *Education* – Their pre-K-12 education business delivers content and services through a variety of mediums other than print, including mobile learning applications, digital platforms, educational gaming across multiple platforms and devices. In addition, HMH offers a wide range of educational, cognitive and developmental standardised testing products in CD-Rom and online formats, targeting the educational and clinical assessment markets.
- *Trade Publishing* – HMH sells consumer books in print and digital formats to retail stores, both physical and online, and wholesalers. Reference materials are also sold to schools, colleges, libraries, office supply distributors and other businesses. General interest titles are sold in e-book formats. HMH sells e-books, book or character based apps and other digital products with net sales from e-books reaching approximately USD 25.0m (16% of divisional revenue) for the year ended 31 December 2012.

### **Wiley**

Wiley generates 57% of its revenues from research, 24% from professional development and 19% from education. The digital businesses in each of these segments are:

- *Research* – Digital revenue accounted for 61% of total research revenue in fiscal year 2012. These include Journal online subscriptions, e-books and online publishing rights for Wiley content. Wiley Online Library is the online publishing platform for the company's research business, which covers life, health and physical sciences, social science and the humanities. It gives access to 4 million articles from 1,500 journals, 13,000 online books, and hundreds of reference works, laboratory protocols and databases.
- *Professional Development (PD)* – Digital revenue includes e-books, online advertising, content-enabled services and content licensing. Digital revenue accounted for 15% of total PD revenue. e-book accounts include notably Amazon, Barnes & Noble and Apple.
- *Education* – Digital revenue accounted for 16% of education's business in fiscal year 2012. This includes online programme management services (Deltak) for colleges and universities and integrated online teaching and learning sources (WileyPLUS) for instructors and students.

### **PRISA – Santillana**

- Santillana is PRISA group's education and publishing unit, generating 26% of group revenues. Santillana is market leader in educational content in Spanish- and Portuguese-speaking markets across textbooks, language and trade publishing. Santillana products range from the publishing of school textbooks (by Santillana Educación), the publishing of language teaching books (including Richmond, Santillana Français) and general publishing (including Alfaguara, Taurus, Suma, Aguilar). Their initiatives in digital are:
- Santillana, in 2010, launched, in partnership with six other publishers, Librandia, the biggest Spanish distribution platform for books. This initiative has spread to other countries, with Brazil and the US at the forefront.
- Santillana has developed books and educational materials in digital format. Santillana launched a new Learning System (Sistema UNO Internacional), to help teachers and parents follow up on the progress of the students, in Mexico, Brazil and Colombia.
- Santillana launched Tareas y Más in Spain, a site with thousands of digital resources for the easy homework help. Content is organized around three main subjects: maths, Spanish as first Language, physics and chemistry.
- Santillana, in December 2012, launched Edusfera, an online store for educational content as well as a social network to foster learning.

Fig. 55: Profit and loss

<b>P&amp;L Statement</b>					
<b>Year End 31 December (GBP M)</b>	<b>2011A</b>	<b>2012A</b>	<b>2013E</b>	<b>2014E</b>	<b>2015E</b>
<b>Revenue</b>					
North American Education	2,584	2,658	2,880	2,936	3,024
International Education	1,424	1,568	1,735	1,839	1,931
Professional	382	390	409	422	434
<b>Education sub total</b>	<b>4,390</b>	<b>4,616</b>	<b>5,024</b>	<b>5,196</b>	<b>5,389</b>
FT Publishing	427	443	443	452	461
Penguin	1,045	1,053	0	0	0
<b>Total Continuing Turnover</b>	<b>5,862</b>	<b>6,112</b>	<b>5,467</b>	<b>5,648</b>	<b>5,849</b>
<b>Total turnover</b>	<b>5,862</b>	<b>6,112</b>	<b>5,467</b>	<b>5,648</b>	<b>5,849</b>
<b>EBITA Margin</b>					
North American Education	19%	20%	19%	20%	21%
International Education	14%	14%	9%	12%	14%
Professional	17%	9%	13%	13%	13%
<b>Education sub total</b>	<b>17%</b>	<b>17%</b>	<b>15%</b>	<b>17%</b>	<b>18%</b>
FT Publishing	18%	11%	11%	12%	12%
Penguin	11%	9%	0%	0%	0%
<b>Continuing Margin</b>	<b>16%</b>	<b>15%</b>	<b>16%</b>	<b>17%</b>	<b>19%</b>
<b>Group Margin</b>	<b>16%</b>	<b>15%</b>	<b>16%</b>	<b>17%</b>	<b>19%</b>
<b>EBITA(ex JV/Assoc)</b>					
North American Education	493	536	545	598	635
International Education	196	216	156	221	270
Professional	66	37	52	54	56
<b>Education sub total</b>	<b>755</b>	<b>789</b>	<b>753</b>	<b>872</b>	<b>962</b>
FT Publishing	76	49	48	52	55
Penguin	111	98	68	56	70
<b>Continuing Adjusted EBITA</b>	<b>942</b>	<b>936</b>	<b>868</b>	<b>980</b>	<b>1,087</b>
Discontinued	0	0	0	0	0
<b>Total Adjusted EBITA</b>	<b>942</b>	<b>936</b>	<b>868</b>	<b>980</b>	<b>1,087</b>
<i>% Growth</i>	0%	-1%	-7%	13%	11%
Of which Assoc & JVs	33	9	9	9	9
Amortisation of acquired intangibles	-139	-183	-183	-183	-183
Total exceptionals	423	-176	0	0	0
<b>Reported EBIT</b>	<b>1,226</b>	<b>577</b>	<b>685</b>	<b>797</b>	<b>904</b>
Adjusted Interest	-52	-52	-65	-62	-58
Exceptional Interest	-19	-29	0	0	0
Total Interest (continuing)	-71	-81	-65	-62	-58
<b>Adjusted PTP (incl disc.)</b>	<b>890</b>	<b>884</b>	<b>803</b>	<b>918</b>	<b>1,029</b>
<b>Reported PTP (continuing)</b>	<b>1,155</b>	<b>496</b>	<b>620</b>	<b>735</b>	<b>846</b>
<i>Tax % Reported</i>	17%	30%	31%	30%	30%
Tax Charge Reported	-199	-148	-193	-224	-251
<i>Tax % Adjusted</i>	22%	23%	24%	24%	24%
Adjusted Tax Charge	-199	-204	-193	-224	-251
Adjusted minorities	1	-3	1	1	1
Reported earnings	957	345	428	512	596
<b>Adjusted Earnings</b>	<b>692</b>	<b>677</b>	<b>611</b>	<b>695</b>	<b>779</b>
Average Shares in issue (m)	800	804	803	803	803
Reported EPS p (continuing)	119.6	42.9	53.4	63.8	74.2
<b>Adjusted EPS p</b>	<b>86.5</b>	<b>84.2</b>	<b>76.1</b>	<b>86.5</b>	<b>97.0</b>
<i>% Growth</i>	12%	-3%	-10%	14%	12%
DPS	42.0	45.0	48.2	51.5	55.4

Source: Company data, Nomura estimates

Fig. 56: Cash flow

<b>Cash Flow Statement</b>					
<b>Year End 31 December (GBP M)</b>	<b>2011A</b>	<b>2012A</b>	<b>2013E</b>	<b>2014E</b>	<b>2015E</b>
<b>Reported Net earnings</b>	<b>957</b>	<b>345</b>	<b>428</b>	<b>512</b>	<b>596</b>
<i>Add back</i>					
P&L tax	199	167	193	224	251
Depreciation	118	134	139	144	148
Amortisation of acquired intangibles	139	183	183	183	183
Amortisation of other intangibles	0	0	0	0	0
Amortisation of pre-pub investment	331	316	402	416	431
<b>Total depreciation/amortisation</b>	<b>588</b>	<b>633</b>	<b>724</b>	<b>742</b>	<b>762</b>
(Profit)/loss on PP&E sales	0	0	0	0	0
(Profit)/loss on sale of financial assets	0	0	0	0	0
P&L interest charge	71	81	65	62	58
Shareof JV/Assoc profits	-33	-9	-9	-9	-9
Dividends from JVs/Assoc	30	27	9	9	9
(Profit)/loss on disposals	-427	92	0	0	0
Forex gains/(losses) from transactions	24	-21	0	0	0
Share based payments	40	32	0	0	0
Net working capital movement	37	-100	-24	-38	-42
Provisions	-37	-46	0	0	0
<b>Cash generated from operations</b>	<b>1,449</b>	<b>1,201</b>	<b>1,386</b>	<b>1,503</b>	<b>1,625</b>
Net cash interest	-70	-75	-65	-62	-58
Cash tax rate	17%	7%	24%	24%	24%
Tax paid	-151	-65	-193	-220	-247
<b>Net cash from operating activities</b>	<b>1228</b>	<b>1061</b>	<b>1129</b>	<b>1220</b>	<b>1320</b>
Net cap ex	-140	-156	-150	-155	-161
Investment in pre pub	-331	-364	-402	-416	-431
<b>Free cash flow</b>	<b>757</b>	<b>541</b>	<b>577</b>	<b>650</b>	<b>729</b>
Acquisitions of Subs and JVs/Assocs	-887	-755	-150	0	0
Disposal of Subs and JVs/Assocs	503	-11	0	0	0
<b>Cash from investing activities</b>	<b>-384</b>	<b>-766</b>	<b>-150</b>	<b>0</b>	<b>0</b>
<b>Net cash flow before financing activities</b>	<b>373</b>	<b>-225</b>	<b>427</b>	<b>650</b>	<b>729</b>
Dividends to shareholders	-318	-346	-387	-414	-445
Dividends to minorities	-1	-2	1	1	1
<b>Change in net debt</b>	<b>-69</b>	<b>-419</b>	<b>-79</b>	<b>237</b>	<b>285</b>
<b>Net debt</b>	<b>-499</b>	<b>-918</b>	<b>-997</b>	<b>-760</b>	<b>-476</b>

Source: Company data, Nomura estimates

Fig. 57: Balance sheet

<b>Balance Sheet</b>					
<b>Year End 31 December (GBP M)</b>	<b>2011A</b>	<b>2012A</b>	<b>2013E</b>	<b>2014E</b>	<b>2015E</b>
Property, plant and equipment	383	327	353	365	377
Intangible assets	6342	6218	6170	5987	5804
Investments in joint ventures and associates	32	15	15	15	15
Deferred income tax assets	287	229	229	229	229
Financial assets – Derivative financial instruments	177	174	174	174	174
Retirement benefit assets	25	0	0	0	0
Other financial assets	26	31	31	31	31
Trade and other receivables	151	79	79	79	79
<b>Non-current assets</b>	<b>7423</b>	<b>7073</b>	<b>7051</b>	<b>6880</b>	<b>6709</b>
Intangible assets – Pre-publication	650	666	666	666	666
Inventories	407	261	261	261	261
Trade and other receivables	1386	1104	1128	1165	1207
Financial assets – Derivative financial instruments	0	4	4	4	4
Financial assets – Marketable securities	9	6	6	6	6
Cash and cash equivalents (excluding overdrafts)	1369	1062	983	1220	1504
<b>Current assets</b>	<b>3821</b>	<b>3103</b>	<b>3047</b>	<b>3322</b>	<b>3649</b>
<b>TOTAL ASSETS</b>	<b>11244</b>	<b>11348</b>	<b>11270</b>	<b>11373</b>	<b>11529</b>
Financial liabilities – Borrowings	1964	2010	2010	2010	2010
Financial liabilities – Derivative financial instruments	2	0	0	0	0
Deferred income tax liabilities	620	601	601	601	601
Retirement benefit obligations	166	172	172	172	172
Provisions for other liabilities and charges	115	110	110	110	110
Other liabilities	325	282	282	282	282
<b>Non-current liabilities</b>	<b>3192</b>	<b>3175</b>	<b>3175</b>	<b>3175</b>	<b>3175</b>
Trade and other liabilities	1741	1556	1556	1556	1556
Financial liabilities – Borrowings	87	262	262	262	262
Financial liabilities – Derivative financial instruments	1	0	0	0	0
Current income tax liabilities	213	291	291	291	291
Provisions for other liabilities and charges	48	38	38	38	38
<b>Current liabilities</b>	<b>2090</b>	<b>2147</b>	<b>2147</b>	<b>2147</b>	<b>2147</b>
Share capital	204	204	204	204	204
Share premium	2544	2555	2555	2555	2555
Treasury shares	-149	-103	-103	-103	-103
Reserves	3344	3030	3071	3170	3321
Others	0	0	-119	-114	-109
<b>Total equity attributable to equity holders of the company</b>	<b>5943</b>	<b>5686</b>	<b>5608</b>	<b>5711</b>	<b>5867</b>
Non-controlling interest	19	24	24	24	24
<b>Total equity</b>	<b>5962</b>	<b>5710</b>	<b>5632</b>	<b>5735</b>	<b>5891</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>11244</b>	<b>11348</b>	<b>11270</b>	<b>11373</b>	<b>11529</b>

Source: Company data, Nomura estimates

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# Appendix A-1

## Analyst Certification

I, Matthew Walker, hereby certify (1) that the views expressed in this Research report accurately reflect my personal views about any or all of the subject securities or issuers referred to in this Research report, (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Research report and (3) no part of my compensation is tied to any specific investment banking transactions performed by Nomura Securities International, Inc., Nomura International plc or any other Nomura Group company.

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### Materially mentioned issuers

Issuer	Ticker	Price	Price date	Stock rating	Sector rating	Disclosures
Pearson	PSO LN	1347p	13-Aug-2013	Reduce	Neutral	

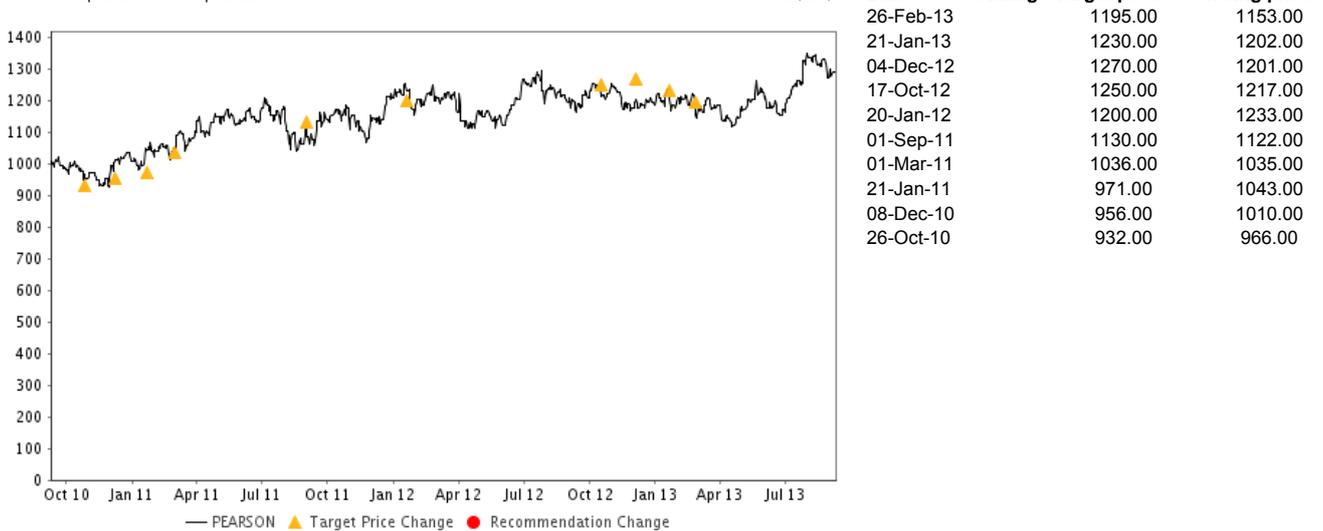
### Pearson (PSO LN)

1347p (13-Aug-2013) Reduce (Sector rating: Neutral)

Rating and target price chart (three year history)

09-Sep-2010 to 06-Sep-2013

PRICE(GBX)



Source: ThomsonReuters, Nomura research

For explanation of ratings refer to the stock rating keys located after chart(s)

**Valuation Methodology** Our DCF-based target price of 1,100p assumes a WACC of 9.5% and terminal growth rate of 3.5%. Cash flows up to 2030E are discounted back to FY2013E. The benchmark index for this stock is Dow Jones STOXX 600 Media.

**Risks that may impede the achievement of the target price** Pearson is exposed to US state spending on education, which is correlated to tax receipts. It is exposed to risks related to education moving online and additional competition. The Penguin consumer book business is exposed to the success of its authors and general consumer spending. The FT is exposed to advertising markets. In general, Pearson is exposed to the economy, and any deterioration in economic conditions could have a detrimental effect on earnings and valuation. It has execution risk on US and International acquisitions.

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#### STOCKS

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