Developing new statistics on intangible assets in the UK

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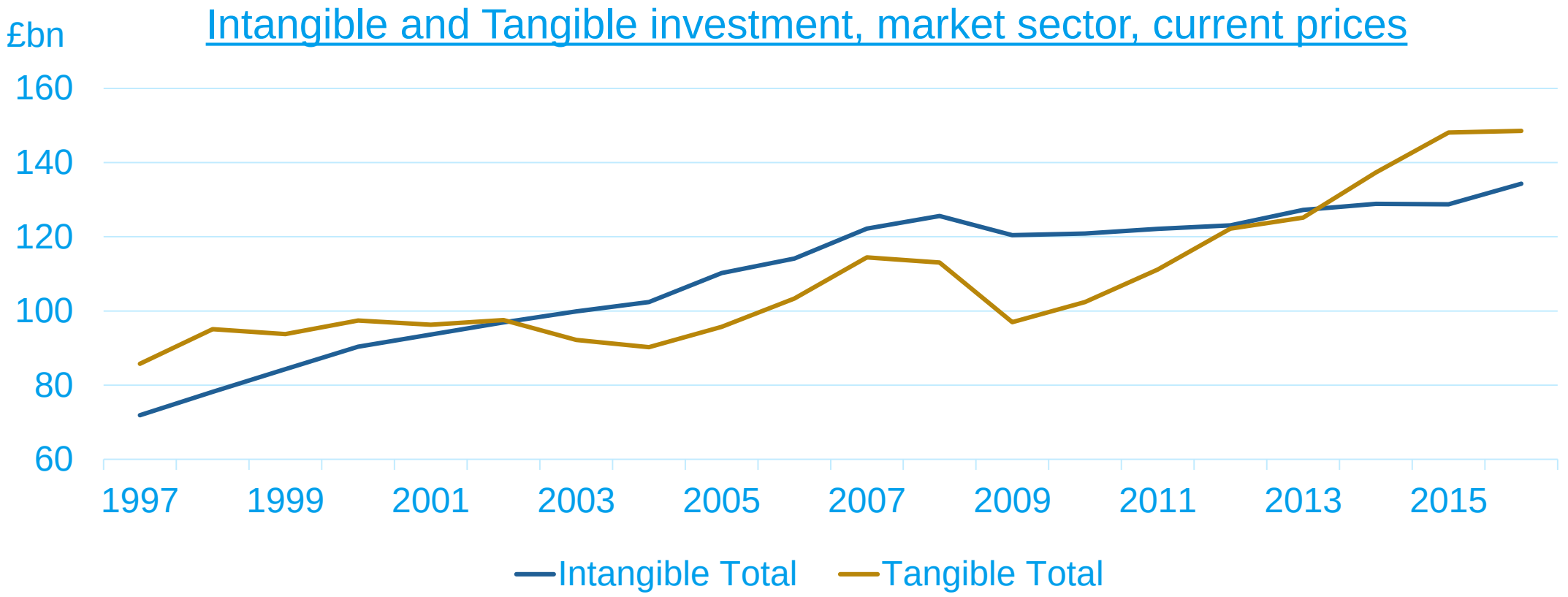
Intangibles are important, but you knew that already



Intangibles were under-measured

In the 1984 input-output tables for the UK, few ‘commodity groups’ covered the intangible assets:

- “public administration etc” – R&D
- “business services etc” – advertising, design, software
- “other services” – entertainment originals
- “printing and publishing” – literary originals

Intangibles were under-measured

In the 1990 input-output tables, we got more breakdown:

- “advertising”
- “computing services”
- “research and development”
- But still lots in “other business services”

Measurement is improving…

Progress since then:

- R&D capitalised in national accounts
- Intangibles gaining traction around the world
- Technological revolution
- Still more to do

Measurement is improving…

In the 2016 supply and use tables for the UK, we have:

- Publishing services; Motion Picture, Video & TV Programme Production…
- Computer programming, consultancy and related services
- Services of head offices; management consulting services
- Architectural and engineering services; technical testing and analysis
- Scientific research and development services
- Advertising and market research services

Own-account software

Own-account investment method

	Data	Method	Notes
Wages and salaries	£40,000	A	Industry and occupation specific
Factor for non-wage labour costs	1.17	B	Calculated from software industry
Factor for non-software activities	0.5	C	Occupation specific ‘time factor’
Factor for non-labour costs	1.9	D	Calculated from software industry
Factor for sales adjustment	1	E	Industry specific
Own-account software investment	£44,460	A x B x C x D x E	

Which occupations?

+ **Major Group 1: MANAGERS, DIRECTORS AND SENIOR OFFICIALS**
- **Major Group 2: PROFESSIONAL OCCUPATIONS**
  - Sub-Major Group 21: SCIENCE, RESEARCH, ENGINEERING AND TECHNOLOGY PROFESSIONALS
    + Minor Group 211: NATURAL AND SOCIAL SCIENCE PROFESSIONALS
    + Minor Group 212: ENGINEERING PROFESSIONALS
    - Minor Group 213: INFORMATION TECHNOLOGY AND TELECOMMUNICATIONS PROFESSIONALS
      - Unit Group 2133: IT SPECIALIST MANAGERS
      - Unit Group 2134: IT PROJECT AND PROGRAMME MANAGERS
      - Unit Group 2135: IT BUSINESS ANALYSTS, ARCHITECTS AND SYSTEMS DESIGNERS
      - Unit Group 2136: PROGRAMMERS AND SOFTWARE DEVELOPMENT PROFESSIONALS
      - Unit Group 2137: WEB DESIGN AND DEVELOPMENT PROFESSIONALS
      - Unit Group 2139: INFORMATION TECHNOLOGY AND TELECOMMUNICATIONS PROFESSIONALS N.E.C.

Which occupations?

2136: PROGRAMMERS AND SOFTWARE DEVELOPMENT PROFESSIONALS

Job description:
Programmers and software development professionals design, develop, test, implement and maintain software systems in order to meet the specifications and business objectives of the information system; they also design and develop specialist software e.g. for computer games.

Entry requirements of this job:
Entrants usually possess a degree or equivalent qualification, although entry with other academic qualifications and/or significant relevant experience is possible. There is a variety of vocational, professional and postgraduate qualifications available.

Tasks required by this job include:

- examines existing software and determines requirements for new/modified systems in the light of business needs;
- undertakes feasibility study to design software solutions;
- writes and codes individual programs according to specifications;
- develops user interfaces;
- tests and corrects software programs;
- writes code for specialist programming for computer games, (for example, artificial intelligence, 3D engine development);
- implements and evaluates the software;
- plans and maintains database structures;
- writes operational documentation and provides subsequent support and training for users.

Jobs related to this code:

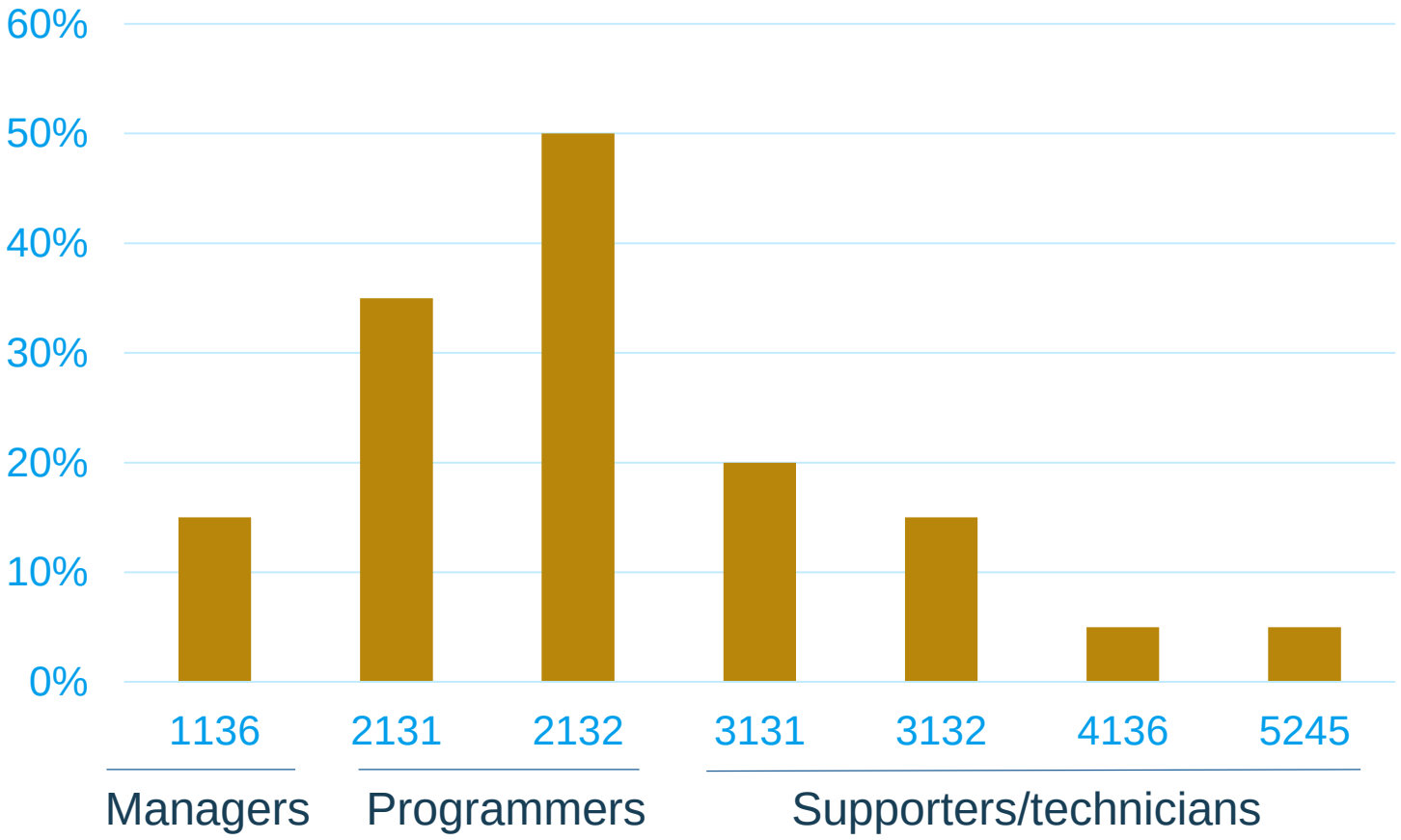
- Analyst-programmer
- Database developer
- Games programmer
- Programmer
- Software engineer

Which occupations?

What about “data scientist” or “data architect”?

- 2127: Production and Process Engineers
- 2135: IT Business Analysis, Architects and Systems Designers
- 2136: Programmers and Software Development Professionals
- 2423: Management Consultants and Business Analysts
- 2425: Actuaries, Economists and Statisticians
- 3132: IT User Support Technicians

What time factors?



Our contribution

- Convert occupation codes and time factors from SOC 2000 to SOC 2010
- Microdata research with ‘job-titles’ in ASHE
- Interviews with senior IT managers at multi-national enterprises
- International cooperation

Branding: Advertising and Market Research

Josh’s Cola Company

If I had the same number of staff, the same sized premises, the same technology, the secret recipe and the same ingredients, I could make Coca-Cola

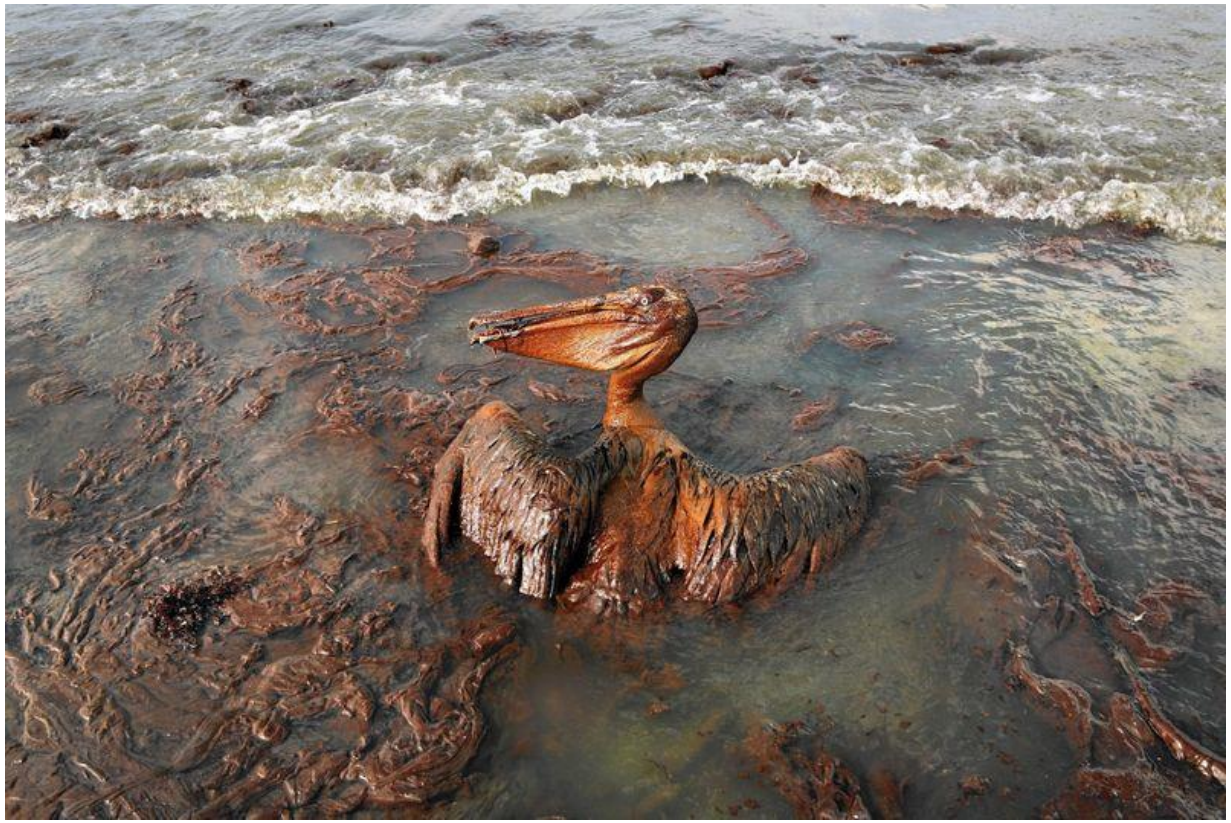
But I couldn’t sell nearly the same quantity, or at the same price, as The Coca-Cola Company

Brand as an asset

Investments in market research and advertising help to develop a Brand

A better Brand improves revenue and measured productivity (but not efficiency?)

Brands can also be destroyed…



How do firms invest in their brand?

A combination of purchased and in-house (own-account)

- Complements or substitutes?

In-house mostly at the early and later stages

Creative usually outsourced (purchased)

Own-account Branding

Around 3% of workforce in branding related occupations

Less than 0.5% work in the advertising industry

Only around 5% of such workers in the advertising industry

Lots of own-account branding going on!

Own-account Branding

We have developed new estimates based on the own-account software methodology

Identifying occupations, time factors, and capitalisation factors

Other research and next steps

Other research

- Entertainment, literary and artistic originals – updates
- Training – backcasting using LFS
- Price indices – investigating SPPIs
- Historic estimates – with difficulty!

Other research

Microdata analysis

- ONS surveys on intangible investment in 2010/2011
- Reconciling these estimates with ‘macro’ approach
- Linking with other relevant surveys

Next steps

- Updated estimates to 2017 – to be published in Winter 2019, after Blue Book 2019
- Changes in BB19, including double deflation
- Further research, and development of methods

Thank you for listening

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