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The brain business

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How Europe uses and abuses its brainpower

WHICH country is best at fostering and using knowledge and skills? The answer to that might also tell you which country will be most successful economically since knowledge is held to be the key to growth; the European Union has grandiloquently set itself the target of becoming “the most competitive and dynamic knowledge-based economy in the world”.

Until now, though, it is been frustratingly hard to measure who is fostering knowledge best. Instead, there have been partial indicators, such as who spends what on research and development. Or there have been indicators of something slightly different, such as competitiveness rankings compiled by the World Economic Forum, the organisers of annual conferences in Davos.

Hence the value of a brave stab at measuring knowledge and skills, broadly defined. **It comes from two European think-tanks, the Lisbon Council in Brussels and the Frankfurt-based Deutschland Denken (Think Germany), and has been devised by Peer Ederer of the Zeppelin University in Friedrichshafen.**

Mr Ederer's scorecard has four columns. First comes a country's knowledge base or, as economists call it, “human-capital endowment”. This is the imputed value of all the effort that has gone into educating and training everyone in the country.

Formal study is part of it, but so is the value of time spent parenting. Results here vary surprisingly widely between countries, with Sweden doing brilliantly and Italy poorly.

This column also includes adult education and in-house training by companies. It turns out that these have at least as big an impact on a country's ability to create knowledge as the relative performance of its education system does. The resulting score for human-capital endowment is then depreciated, for what is called, with delightfully euphemistic tact, "obsolescence in the knowledge base and some level of forgetting".

Next comes employment. It is no good training people and giving them splendid skills if they don't have a job, so the second measure is "human-capital utilisation". That is a bit like a traditional employment rate but weighted for education, training and the rest of it. And as it is not much use training people and giving them jobs if they are working inefficiently, the study therefore includes a third measure, of productivity, to capture how well a country is using knowledge. It divides economic output by the human-capital stock (normal productivity measures, in contrast, divide output by the number of hours worked). Lastly, Mr Ederer included demographic change, since even if a country has well-trained people, with good jobs, working effectively, its knowledge base will still decline if low fertility means its working-age population is shrinking.

Putting that lot together, you come up with an overall score. European countries divide into three groups: A-grade students (with Sweden easily the best, followed by Denmark, Britain, Austria and the Netherlands); muddlers in the middle (Finland, Ireland, France and Belgium); and lastly duffers who ought to be held back a year (Spain, Portugal and—oddly—Germany, with Italy trailing way behind).

In some ways, these grades might not look all that surprising. They are similar to what you would get if you looked at countries' general economic management over recent years: the Nordics (including Britain and Austria as honorary members) are doing well; Mediterranean and large continental economies are in trouble. But surprising or not, no one has worked out the impact of knowledge like this before.

There are also revealing details. Finland has, by most measurements, the best education system in Europe, perhaps in the world. Yet it is outstripped on Mr Ederer's scorecard by Sweden and Denmark. Why? Because Swedes and Danes invest more time than anyone else in bringing up children (generous laws on parental leave, perhaps?). They put skilled people to work: 63% of the national knowledge base is in productive use in Denmark but only 55% in France and a measly 52% in Italy; that's a big gap.

The study casts light on why France is doing so well in some ways but so badly in others (it has high unemployment, yet its multinationals are world-beaters). When skilled people are put to work in France, they are highly productive: the country scores well on the productivity ranking. French demography is also favourable. But the country is falling way behind in creating a knowledge base (it scores badly on the human-capital endowment ranking) and it is signally failing to put people to work.

Germany's late for its exams

More worrying, though, is Germany, perhaps the most striking failure among countries in the study. It continues to churn out highly trained people (it comes fifth on the endowment ranking). But it is not to putting them to work: the average age at which Germans graduate from university (at master's degree level) is 28 years, one of the highest in Europe. And its demographic indicators are flashing red: Germany and Italy between them account for 70% of the total decline in western Europe's workforce in the next 25 years.

No one would say these indicators are perfect (they almost certainly understate Ireland's knowledge base, for instance). But because human capital is the main determinant of economic performance, they at least provide a rough guide to future success. Sweden is better placed than its recent election might lead you to think (the result was a demand to reform the "Swedish model"). Germany and Italy are doing worse than they seem.

The study is also a timely reminder that much European debate on innovation and the "knowledge economy" is woefully inadequate. The next time you hear Europeans talking excitedly about increasing research and development spending, as they will undoubtedly do at next week's EU summit, remember that such efforts are only a tiny part of the wider task of building and deploying knowledge.