



# The Milieu E-journal on Law & Policy

Towards the future of the European Union:  
Challenges and opportunities for revitalization.

**2017, Issue 1**

Editor-in-Chief: Dr. Marta Santos Silva  
Deputy Editor: Dr. Sean O' Dubhghaill

COMMON VALUES IN THE EUROPEAN UNION by Ana Gómez Rojo

THE COLLABORATIVE ECONOMY- INCENTIVISING THE  
ENVIRONMENTAL POTENTIAL by Ludovica Rossi, Jennifer McGuinn and Dr.  
Meena Fernandes

LEGAL MIGRATION IN THE EUROPEAN UNION by Jean-Christophe Niçaise  
Château

AGRICULTURAL CHALLENGES IN THE 21ST CENTURY: POLICY  
PERSPECTIVES IN THE CONTEXT OF THE POST 2020 CAP REFORM by  
Harriet Bradley, Robert Pederson and Nicholas Merriman

THE DEVELOPMENT OF PRIVATE PLACEMENT OF DEBT IN THE EU by  
Jūlija Sproģe, Dr. Véronique Bruggeman and Athena Christophi

LAWFUL HACKING AND FUNDAMENTAL RIGHTS by Virginia Dalla Pozza

Correspondence:  
Editor, Milieu Ltd.  
Chaussée de Charleroi 112,  
Saint-Gilles, 1060 – Brussels, Belgium.  
[www.milieu.be/ejournal](http://www.milieu.be/ejournal)

Dear Reader,

The 29<sup>th</sup> of January commemorates freethinker's day. This is a day devoted to the scrutinising of the status quo. But it is also devoted to the construction of logical and thoughtful arguments against passivity and injustice, and towards economic and social progress.

Milieu's interdisciplinary team identifies with this spirit and took this occasion to bring together a series of articles based on current and cutting edge research, that are now shared in an open access manner with our affiliates, external contributors, clients as well as with the public at large.

The papers collected here might be best summed up as being directed at issues that are likely to impact upon the European Union of the future and must, therefore, be treated with the greatest possible care moving forward.

This is true of the important topic of education, addressed by *Gomez Rojo*, who seeks to de-abstractify the notion of the European populous by examining the shared values enshrined in the Treaty on European Union. Her work serves as an excellent reminder of how useful Article 2 of the TEU is to pupils of all ages.

Moving forward, it is impossible to think of the predicament of the European Union without casting our minds to the environment and the challenges presented by climate change, challenges that can only be addressed collaboratively. *Rossi, McGuinn* and *Fernandes* shine a light on how the collaborative economy impacts positively on the environment.

Another issue is linked to migration and to the incredibly pressing need for migrants to respond to the demands of the EU labour market, as expertly identified in *Niçaise-Chateau's* work. In a similar vein, there is also the fundamental issue of responsibility and how we might post workers, to resolve some of the issues cited in *Niçaise-Chateau's* work, in a manner that is not predatory.

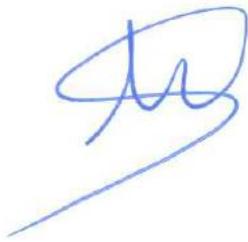
However, the primacy of certain predominant trends notwithstanding, standout problems remain. These problems, while seeming insurmountable, can be better approached in a shared manner. Here, two pressing problems are presented and are analysed, with respect to the agricultural challenges which will present themselves in the 21<sup>st</sup> century, by *Bradley, Pederson* and *Merriman* in a masterful overview of our current predicament.

An area in which the EU lags behind the USA is with respect to debt management and the nature of private placement regimes. In their work, *Sproge, Bruggeman & Christophi* plumb the depths of debt and disclose directions, which are both practical and profound, in which the economy may be re-invigourated.

Finally, the right to privacy is examined by *Dalla-Pozza*, who incisively remarks in her examination of the thin line between the benefits presented in lawful hacking *versus* the necessity to protect our security on the internet.

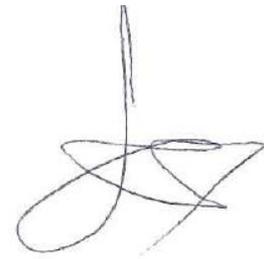
By sharing these considerations in an open manner we seek to shed light on matters of real-world importance, paying homage to the old adage that says: “A problem shared is a problem halved.”

Editor-in-Chief



Dr. Marta Santos-Silva

Deputy Editor



Dr. Sean O' Dubhghaill

## COMMON VALUES IN THE EUROPEAN UNION

Ana Gómez Rojo<sup>1</sup>

**Keywords:** EU common values, Article 2 TEU, EU education systems, Paris Declaration, policy and financial initiatives, children, young people

‘An integral part of our European way of life is our values. The values of freedom, democracy, the rule of law. Values fought for on battlefields and soapboxes over centuries [...] I believe in Europe because my father taught me those same values. But what are we teaching our children now? What will they inherit from us? A Union that unravels in disunity? A Union that has forgotten its past and has no vision for the future? Our children deserve better.’<sup>2</sup>

Article 2 of the Treaty on European Union (TEU) sets out as common European values, ‘respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities.’ This provision further establishes that pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men must prevail in all Member States<sup>3</sup>.

These values are not specific to the European Union; rather, they are inspired in a universal tradition which has been reflected in the multiple and diverse declarations on human rights across the world, from the Universal Declaration on Human Rights<sup>4</sup>, to the African Charter on Human and People’s Rights<sup>5</sup> to the US Constitution<sup>6</sup>. Therefore, teaching these values does not imply teaching support for the European Union. Teaching Article 2 TEU values ‘is one of the keystones to ensure the sustainable and peaceful development of societies.’<sup>7</sup>

These values also play a role as a cornerstone for civic competences, which are taught in schools throughout the EU, either in stand-alone subjects devoted to the topic, in subjects

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<sup>1</sup> This contribution has benefited from discussions with Ms Vanessa Leigh and Mr David Kerr. The usual disclaimer applies.

<sup>2</sup> Juncker, J.-C., ‘State of the Union Address 2016: Towards a better Europe – A Europe that protects, empowers and defends’, Strasbourg, 14 September 2016, <[http://europa.eu/rapid/press-release\\_SPEECH-16-3043\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-16-3043_en.htm)> (9 November 2016).

<sup>3</sup> Article 49 TEU.

<sup>4</sup> UN General Assembly, Universal Declaration of Human Rights, 10 December 1948, 217 A (III), <<http://www.refworld.org/docid/3ae6b3712c.html>> (9 November 2016).

<sup>5</sup> Organization of African Unity (OAU), African Charter on Human and Peoples' Rights (‘Banjul Charter’), 27 June 1981, CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), <<http://www.refworld.org/docid/3ae6b3630.html>> (9 November 2016).

<sup>6</sup> United States of America, Constitution, 17 September 1787, <<http://www.refworld.org/docid/3ae6b54d1c.html>> (9 November 2016).

<sup>7</sup> Lifelong Learning Interest Group, The role of education in promoting European fundamental values, 22 September 2015, <[http://www.lll-interestgroup.eu/pdf/Minutes\\_2209\\_meeting.pdf](http://www.lll-interestgroup.eu/pdf/Minutes_2209_meeting.pdf)> (9 November 2016).

such as history, geography and social sciences, or in a cross-curricular approach<sup>8</sup>. However, the way in which these values are taught varies from one Member State to another. The values which Member States decide to focus on differ according to their respective historical background or political context. For example, while teaching the structure and functioning of democratic institutions is common to most Member States, teaching the rights of minorities and how to promote and protect them is increasingly becoming a feature in national curricula in Member States.

In March 2015, the EU Ministers of Education adopted the Paris Declaration on Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education<sup>9</sup>. Increasing migration pressures make the education of children and young people in the culture of tolerance, pluralism and non-discrimination all the more important, particularly considering their role in shaping the future<sup>10</sup>. The Declaration lists four main overarching priorities:

- Ensuring young people acquire social, civic and intercultural competences, by promoting democratic values and fundamental rights, social inclusion and non-discrimination, as well as active citizenship;
- Enhancing critical thinking and media literacy, particularly in the use of the Internet and social media, so as to develop resistance to of discrimination and indoctrination;
- Fostering the education of disadvantaged children and young people, by ensuring that our education and training systems address their needs;
- promoting intercultural dialogue through all forms of learning in cooperation with other relevant policies and stakeholders<sup>11</sup>.

The civic dimension of education has been a longstanding priority within EU policies and for the EU institutions<sup>12</sup>. It features, for example, in the European Commission's Work Plan<sup>13</sup>, the Council's Conclusions on a Strategic Framework for European

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<sup>8</sup> Eurydice, *Developing key competences at school in Europe: Challenges and opportunities for policy*, 2012, <[http://eacea.ec.europa.eu/education/eurydice/documents/thematic\\_reports/145en.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/145en.pdf)> (9 November 2016), p. 9.

<sup>9</sup> EU Ministers of Education, *Declaration on Promoting Citizenship and the Common Values of Freedom, Tolerance and Non-Discrimination through Education*, Paris, 17 March 2015, <[http://ec.europa.eu/dgs/education\\_culture/repository/education/news/2015/documents/citizenship-education-declaration\\_en.pdf](http://ec.europa.eu/dgs/education_culture/repository/education/news/2015/documents/citizenship-education-declaration_en.pdf)> (9 November 2016).

<sup>10</sup> *ibid.*

<sup>11</sup> *ibid.*

<sup>12</sup> Eurydice, *'Citizenship Education in Europe'*, 2012, <[http://eacea.ec.europa.eu/education/eurydice/documents/thematic\\_reports/139EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/139EN.pdf)> (9 November 2016), p. 8.

<sup>13</sup> European Commission, COM(2015) 408 final, *Staff Working Document accompanying the document Communication from the Commission to the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Draft 2015 Joint Report of the Council and the Commission on the implementation of the Strategic Framework for European cooperation in education and training (ET 2020) – New priorities for European cooperation in education and training*, <[http://ec.europa.eu/education/documents/et-2020-swd-161-2015\\_en.pdf](http://ec.europa.eu/education/documents/et-2020-swd-161-2015_en.pdf)> (9 November 2016); European Commission, *Education and Training 2020. Working Group Mandates 2016-2018*,

Cooperation in Education and Training ('ET 2020')<sup>14</sup> and the European Parliament's programme 'Europe for Citizens (2014-2020)'<sup>15</sup>. In 2010, the Council of Europe adopted the Charter on Education for Democratic Citizenship and Human Rights Education (EDC/HRE) ratified by all 50 Council of Europe Member States, including all EU Member States and the implementation of which is supported by the European Commission<sup>16</sup>.

Furthermore, two expert groups were formed in 2016, one dedicated to education and training, and the other to youth work. The purpose of these groups is to foster the exchange of good practices which will inspire policymakers regarding the objectives set in the Paris Declaration and prepare specific guidance tools<sup>17</sup>.

Diverse financial initiatives have been launched to enhance these policy measures within the 2016 Erasmus+ programme giving priority to those projects which fall within the goals of the Paris Declaration. For example, a specific call with a EUR 13 million budget was launched in March 2016 to support projects in the fields of education, training and youth. It aimed at upscaling and disseminating innovative good practices falling under the scope of the Paris Declaration<sup>18</sup>. Another EUR 14 million was destined for the promotion of inclusion and fundamental values, on a call for projects to promote the improvement of the effectiveness and efficiency of education and training systems and youth policies, through the collection and evaluation of evidence on the systemic impact of innovative policy measures<sup>19</sup>.

A report of the European Network of Experts on Social Aspects of Education and Training published in March 2016 concludes that '[w]hile recent European education research, specifically relating to the promotion of tolerance, shows some strengths, it also

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[http://ec.europa.eu/education/policy/strategic-framework/expert-groups/documents/et2020-mandates\\_en.pdf](http://ec.europa.eu/education/policy/strategic-framework/expert-groups/documents/et2020-mandates_en.pdf) (9 November 2016).

<sup>14</sup> Council of the European Union, Conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training (ET 2020), OJ C 119, 28.05.2009, [https://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/educ/107622.pdf](https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/educ/107622.pdf) (9 November 2016).

<sup>15</sup> European Parliament, Europe for Citizens (2014-2020), [http://www.europarl.europa.eu/RegData/etudes/note/join/2012/495822/IPOL-CULT\\_NT%282012%29495822%28SUM01%29\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/note/join/2012/495822/IPOL-CULT_NT%282012%29495822%28SUM01%29_EN.pdf) (9 November 2016).

<sup>16</sup> Eurydice, 'Citizenship Education in Europe', 2012, [http://eacea.ec.europa.eu/education/eurydice/documents/thematic\\_reports/139EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/139EN.pdf) (9 November 2016), p. 8.

<sup>17</sup> Website of the European Commission, 'Education and radicalisation – the Paris Declaration one year on', 17 March 2016, [http://ec.europa.eu/education/news/20160316-paris-declaration-education\\_en](http://ec.europa.eu/education/news/20160316-paris-declaration-education_en) (9 November 2016).

<sup>18</sup> Education, Audiovisual and Culture Executive Agency (EACEA), 'Call for proposals EACEA/05/2016 under the Erasmus+ Programme. Key Action 3: Support for policy reform. Social inclusion through education, training and youth', 2016/C99/05, [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C\\_.2016.099.01.0004.01.ENG&toc=OJ:C:2016:099:TOC](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.099.01.0004.01.ENG&toc=OJ:C:2016:099:TOC) (9 November 2016).

<sup>19</sup> Website of EACEA, 'Key Action 3 – Initiatives for policy innovation – European policy experimentation – EACEA 34/2015', [https://eacea.ec.europa.eu/erasmus-plus/funding/key-action-3-initiatives-for-policy-innovation-european-policy-experimentation-eacea-342015\\_en](https://eacea.ec.europa.eu/erasmus-plus/funding/key-action-3-initiatives-for-policy-innovation-european-policy-experimentation-eacea-342015_en) (9 November 2016).

exhibits considerable weaknesses'<sup>20</sup>. Although diverse initiatives exist throughout the EU to combat intolerance and promote respect for diversity within and outside the classrooms, the report considers difficult to determine whether all of these initiatives achieve their intended goal. 'Simply bringing young people from different backgrounds together is not sufficient to reduce prejudice and develop positive intercultural relations; schools need to create the conditions for all children and school staff to develop their intercultural competence'<sup>21</sup>.

Incorporating Article 2 TEU values into school education can create support for these values, and also generate among children and young people – in close cooperation with parents, family and teachers - attitudes to become active, responsible and open-minded members of society<sup>22</sup>. The study of Article 2 TEU values will give pupils practical skills and competences, such as developing efficient strategies for making concerns heard, or living and working in culturally diverse environments<sup>23</sup>.

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<sup>20</sup> Network of Experts Working on the Social Dimension of Education and Training (NESET II), 2016, 'Education policies and practices to Foster tolerance, respect for diversity and civic responsibility in children and young people in the EU. Examining the evidence', <[http://ec.europa.eu/dgs/education\\_culture/repository/education/library/study/2016/neset-education-tolerance-2016\\_en.pdf](http://ec.europa.eu/dgs/education_culture/repository/education/library/study/2016/neset-education-tolerance-2016_en.pdf)> (9 November 2016), p. 77.

<sup>21</sup> *ibid*, 78.

<sup>22</sup> Eurydice, 'Citizenship Education in Europe', 2012, <[http://eacea.ec.europa.eu/education/eurydice/documents/thematic\\_reports/139EN.pdf](http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/139EN.pdf) > (9 November 2016), p. 8.

<sup>23</sup> *ibid*.

# THE COLLABORATIVE ECONOMY – INCENTIVISING THE ENVIRONMENTAL POTENTIAL

*Ludovica Rossi, Jennifer McGuinn and Meena Fernandes<sup>1</sup>*

**Keywords:** Collaborative economy, environment, consumers, resource efficiency, business models, prosumers

The rapid growth of the collaborative economy in recent years has drawn the attention of citizens, businesses and policymakers alike. While multiple definitions exist, the collaborative economy generally refers to business models where the exchange of goods and services is facilitated by an online platform. Well-known examples of the collaborative economy include Uber, where car-owners can provide taxi services, and Airbnb, where individuals can rent out under-utilised space in their residence. In Europe alone, the collaborative economy generated in 2015 revenues on the order of 4 billion euros<sup>2</sup>.

The collaborative economy relies upon the provision of temporary access to goods or assets that tend to be under-utilised. These goods can be used by the owner for some periods of time, but could be shared with or made available to others at other times. Such goods frequently include cars, housing and consumer durables. Collaborative practices can reduce the need for everyone to own a good, thereby enhancing resource and energy efficiency, with potential for positive environmental impact. Indeed, environmental concerns are often cited by consumers as a reason to engage in collaborative initiatives<sup>3</sup>. These environmental gains of the collaborative economy may be significant, although further study is required for a more concrete understanding<sup>4</sup>.

Figure 1 presents a conceptual overview of the collaborative economy, where a digital platform connects consumers and providers of goods and/or services. Providers can be private individuals—so called ‘prosumers’—or professional businesses. The business model is defined as ‘consumer-to-consumer’ in the first case and ‘business-to-consumer’ in the second case.

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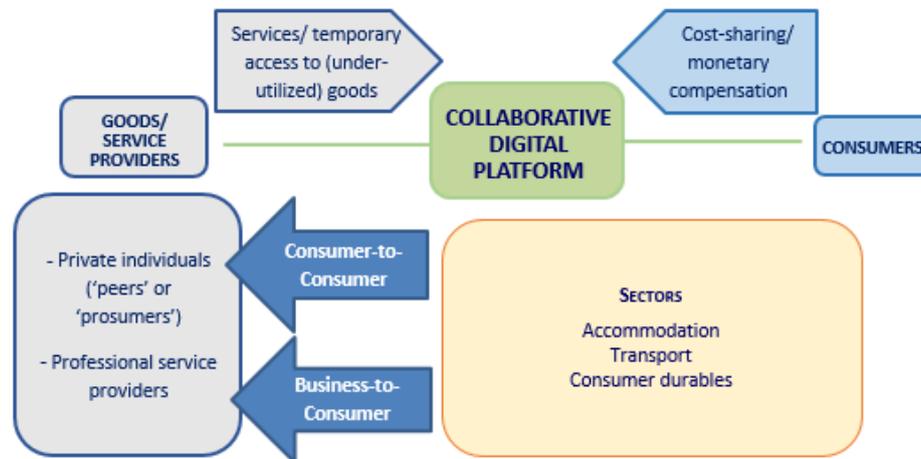
<sup>1</sup> This contribution has benefited from discussions with Ms Valentina Parziale, Dr Agnieszka Markowska, and Ms Mariya Gancheva. The usual disclaimer applies.

<sup>2</sup> Price Waterhouse Coopers (PWC), 2016, *Assessing the size and presence of the collaborative economy in Europe*, April 2016, <<http://www.pwc.co.uk/>> (27 January 2017).

<sup>3</sup> OCU et al., 2016, *Collaboration or Business? From value for users to a society with values*, <<http://ouishare.net/>> (27 January 2017).

<sup>4</sup> Demailly D. & Novel A.S., 2014, *The sharing economy: make it sustainable*, IDDRI study 03/14 July 2014, <<http://www.iddri.org/>> (27 January 2017).

Figure 1: Scope of the collaborative economy for assessing environmental potential



As indicated in Figure 1, the three sectors that are likely to have the greatest potential impact on the environment are accommodation, transport and consumer durables. In the transport sector, practices such as car sharing, carpooling and bike sharing can reduce the number of cars in circulation and enhance the use of bicycles in cities. This would result in lower greenhouse gas (GHG) emissions, less air pollution and, in the case of car sharing, fewer cars purchased. In the accommodation sector, practices such as couch-surfing can reduce utilisation of hotels, which have relatively high energy consumption that is derived mainly from fossil sources<sup>5</sup>. Collaborative practices in the accommodation sector could thus reduce the environmental and energy footprint of the tourism sector. Lastly, the borrowing and lending of consumer durables, such as drills, ladders and other tools, between neighbours could reduce the overall number of such goods purchased. Manufacturers may respond by reducing their production or by producing more durable goods that would need less frequent replacement.

The potential positive environmental impact of the collaborative economy depends, however, on the behaviour of consumers and businesses. For example, the availability of carpooling or car-sharing may reduce the use of public transportation or increase travel depending on factors such as convenience, price and substitutability<sup>6</sup>. The degree to which public transportation usage declines as a result would be considered an indirect effect that could offset the environmental impacts of increased carpooling or car-sharing. Other effects are also possible. Thus, consumer and businesses' behaviour is central to how the collaborative economy evolves and the ensuing impacts on the environment. Policies can shape these behaviours and thus play an important role in the contribution of collaborative economy to sustainable development.

Table 1 presents an overview of possible policy actions in each of the three sectors

<sup>5</sup> Hotel Energy Solutions, July 2011, 'Analysis on energy use by European hotels: online survey and desk research', p. 2, <<http://hotelenergysolutions.net/>> (27 January 2017).

<sup>6</sup> Demailly D. & Novel A.S., 2014.

discussed, as well as the key conditions for achieving their full environmental potential. These conditions are linked to a complex web of factors, such as regulation, demographics and technological development. A thorough understanding of possible policy actions can allow policymakers to foster ‘virtuous’ models of collaborative initiatives that maximize environmental gains and sustainability.

**Table 1: Environmental impacts, conditions and possible policy actions across sectors**

Sector	Direct environmental impacts	Conditions	Possible policy action
Transport	GHG emissions reduction	Complementarity with public transportation rather than substitution (especially in in long distance travelling); more durable and energy efficient cars.	Promoting or incentivising the use of energy efficient and more durable vehicles in car sharing.
	Air pollution abatement		
	Efficient mobility		
	Less land use (less parking space required)		
Accommodation	Energy savings	Under-utilisation of flats/rooms offered through the collaborative platform.	Fiscal incentives to differentiate between users that offer a spare room/flat and those who are pursuing an activity similar to a B&B.
	Water savings		
Consumer durables	Waste reduction	Less new goods purchased; more durable goods; local sharing practices to minimize transportation.	Promote durability of goods.

In conclusion, the evolution of the collaborative economy and its consequent impacts on the environment hinges to a large degree on consumer and business behaviour. Policies can, however, create the right enabling conditions for the realisation of the environmental potential of the collaborative economy.

# LEGAL MIGRATION IN THE EUROPEAN UNION

*Jean-Christophe Niçaise Château*<sup>1</sup>

**Keywords:** legal migration, European Union, workforce, employment, professional skills, international mobility, social rights, asylum policies, third country nationals, fitness check

Europe is a vibrant and strong economy that depends on foreign labour to further grow and thrive. Despite fluctuations in recent years (including a sharp decline between 2010 and 2012, mainly due to the decreasing inflows of workers to southern European countries such as Italy and Spain), Europe has remained an attractive destination for migrants in 2015 and 2016, absorbing nearly one third of international migrants<sup>2</sup>.

At the same time, the trends and patterns for legal migration flows into the EU have changed over the years, shaped by different social, political, economic and ecological developments. With a declining workforce, legal migration can (where properly managed) constitute a key pillar in Europe's economic development and can form part of a sustainable migration strategy.

About four in ten enterprises in EU regions and sectors claim that they cannot meet their needs for labour and skills, despite high unemployment. At the same time, according to Cedefop's European skills and jobs (ESJ) survey, carried out in 2014 in all EU28 Member States, about 29% of European employees are either over- or under-qualified, with over-qualification increasing during the economic crisis<sup>3</sup>.

Managing economic migration has become a key priority on the EU agenda, starting from the Lisbon Strategy, which recognised that migration can play an increasing and important role in meeting EU labour-needs, matching labour and skill shortages, facing the demographic change and the shrinking of labour forces experienced at the EU level.

The EU has developed a number of interconnected measures and pieces of legislation which, taken together, aim to produce flexible admission systems, respond to the priorities of each Member State, while enabling migrant workers to make full use of their skills. These measures have focused on specific categories of legal migrants, namely highly-qualified (Directive 2014/36/EU<sup>4</sup>), intra-corporate transferees (Directive

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<sup>1</sup> This contribution has benefited from discussions with Ms Vanessa Leigh. The usual disclaimer applies.

<sup>2</sup> United Nations, 'International Migration Report', 2015, <<http://www.un.org/en/development/desa/population/migration/publications/migrationreport/docs/MigrationReport2015.pdf>> (16 December 2016).

<sup>3</sup> Cedefop, 'Skills, qualifications and jobs in the EU: the making of a perfect match?' 2015, <[http://www.cedefop.europa.eu/files/3072\\_en.pdf](http://www.cedefop.europa.eu/files/3072_en.pdf)> (16 December 2016).

<sup>4</sup> Official Journal (OJ) L 94, 28 March 2014, pp. 375–390.

2014/66/EU<sup>5</sup>), seasonal workers (Directive 2014/36/EU<sup>6</sup>) and students (Directive 2004/114/EC<sup>7</sup>). Together with the Single Permit Directive (Directive 2011/98/EU<sup>8</sup>) - establishing a single residence and work permit for third country nationals (TCN) workers – as well as the family reunification (Directive 2003/86/EC<sup>9</sup>) and long term residents Directive (Directive 2003/109/EC<sup>10</sup>), these measures constitute the EU framework on legal migration.

However, further action at the EU level is still needed. The currently existing legal migration channels are insufficient to respond to the projected needs of the EU labour market and only cover some categories of economic migrants. All of the assessments and projections in the EU labour market demonstrate the need for foreign labour for the whole territory of the European Union in the coming years and decades<sup>11</sup>. Whereas in principle mobility rights are granted to several categories of TCNs covered by the EU's Migration Directives (long-term residents, EU Blue Card holders, students, researchers and posted workers), in practice their mobility rights are limited and affected by a variety of administrative and legal hurdles, barriers (e.g. portability of social rights, lack of country-specific skills (language), precarious employment, spatial segregation and discrimination). Low levels of TCN's intra-EU mobility constitute a limiting factor to the efficiency of European labour markets and to the matching of labour demand and supply across the EU<sup>12</sup>.

In addition, some categories of TCNs still fall outside of the current EU level framework on legal migration and do not benefit from the EU acquis<sup>13</sup>.

The European Commission is looking to address these shortcomings, to ensure the principle of equal treatment for all TCNs and has committed to encouraging legal migration. On 7 June 2016, the Commission published an Action Plan on the integration of third country nationals<sup>14</sup> providing a common policy framework to help Member

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<sup>5</sup> OJ L 157, 27.05.2014, pp. 1–22.

<sup>6</sup> OJ L 94, 28.03.2014, pp. 375–390.

<sup>7</sup> OJ L 375, 23.12.2004, pp. 12–18.

<sup>8</sup> OJ L 343, 23.12.2011, pp. 1–9.

<sup>9</sup> OJ L 251, 3.10.2003, pp. 12–18.

<sup>10</sup> OJ L 16, 23.01.2004, pp. 44–53.

<sup>11</sup> Cedefop, 'Future Skills Supply and Demand in Europe: Forecast 2012', 2013, <[http://www.cedefop.europa.eu/files/5526\\_en.pdf](http://www.cedefop.europa.eu/files/5526_en.pdf)> (16 December 2016).

<sup>12</sup> EMN Inform, 'Determining labour shortages and the need for labour migration from third countries in the EU', 2015, <<https://ec.europa.eu/migrant-integration/index.cfm?action=media.download&uuid=B4FAE677-A75B-48BB-546CFD4E53F99F2D>> (16 December 2016).

<sup>13</sup> The following categories are considered: i. international service providers not linked to commercial presence (contractual service suppliers and independent professionals); ii. certain categories of third-country transport workers, notably in aviation and road transport; iii. medium and low-skilled workers other than seasonal workers (e.g. domestic workers); iv. self-employed workers; v. non-removable irregular migrants who are granted a toleration status; vi. investors; vii. third-country family members of non-mobile EU citizens or citizens of associated countries (EEA and CH).

<sup>14</sup> European Commission, COM(2016) 377 final, Communication from the Commission to the European parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Action Plan on the integration of third country nationals <<https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/proposal-implementation->

States as they further develop and strengthen their national integration policies for migrants from third countries, and describing the policy, operational and financial support, which the Commission will deliver to aid them in their efforts.

European Commission President Jean-Claude Juncker declared, at the beginning of his mandate, his intention to address the shortcomings of the Blue Card Directive (2009/50/EC) and to substantially broaden its impact in attracting more highly skilled workers to the EU<sup>15</sup>. The European Agenda on Migration<sup>16</sup> called for a review of the EU Blue Card, as part of the new policy on legal migration, to make it more effective in attracting talent to Europe. This priority has been included in the Commission Work Programme 2016, announcing that 'to meet Europe's future demographic and labour market needs, [the Commission] will present a renewed approach on legal migration, including measures to improve the EU Blue Card Directive'.

In this context, the 'Communication towards a reform of the common European asylum system and enhancing legal avenues to Europe', of 6 April 2016<sup>17</sup>, has highlighted the need for sustainable, transparent and accessible legal pathways to Europe as part of a comprehensive approach to migration management.

The European Commission will also carry out a fitness check with a view to identifying potential inconsistencies and gaps, to streamline and to simplify the rules currently in place, and to provide information on the practical implementations of the relevant Directives, in order to support the Commission's monitoring of their correct application by the Member States. The Commission aims to complete the fitness check by 2018.

The achievement of the fitness check, and the results thereof, should contribute to reinforcing EU actions in the most targeted and efficient manner.

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[package/docs/20160607/communication\\_action\\_plan\\_integration\\_third-country\\_nationals\\_en.pdf](https://ec.europa.eu/package/docs/20160607/communication_action_plan_integration_third-country_nationals_en.pdf)> (16 December 2016).

<sup>15</sup> Priorities of Commission President Jean Claude Juncker, <[https://ec.europa.eu/priorities/sites/beta-political/files/juncker-political-guidelines-speech\\_en\\_0.pdf](https://ec.europa.eu/priorities/sites/beta-political/files/juncker-political-guidelines-speech_en_0.pdf)> (16 December 2016).

<sup>16</sup> COM(2015) 240 final, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A European Agenda on Migration <[https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/background-information/docs/communication\\_on\\_the\\_european\\_agenda\\_on\\_migration\\_en.pdf](https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/background-information/docs/communication_on_the_european_agenda_on_migration_en.pdf)> (16 December 2016).

<sup>17</sup> European Commission, COM(2016) 197 final, Communication from the Commission to the European Parliament and the Council Towards a Reform of the Common European Asylum System and Enhancing Legal Avenues to Europe, <[https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/proposal-implementation-package/docs/20160406/towards\\_a\\_reform\\_of\\_the\\_common\\_european\\_asylum\\_system\\_and\\_enhancing\\_legal\\_avenues\\_to\\_europe\\_-\\_20160406\\_en.pdf](https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/proposal-implementation-package/docs/20160406/towards_a_reform_of_the_common_european_asylum_system_and_enhancing_legal_avenues_to_europe_-_20160406_en.pdf)> (16 December 2016).

# AGRICULTURAL CHALLENGES IN THE 21<sup>ST</sup> CENTURY POLICY PERSPECTIVES IN THE CONTEXT OF THE POST 2020 CAP REFORM

*Harriet Bradley, Robert Pederson and Nicolas Merriman*

**Keywords:** Agriculture, Food Security, European Union, CAP Reform, Sustainable Intensification, Agroecology

## **Abstract**

*Globally, agriculture faces a host of complex challenges in the 21st century. In the broadest terms, these relate to ensuring food security for an increasing global population in a sustainable way—that is, without harming the ability of future generations to be food-secure. EU agriculture faces both common and distinct challenges to those at the global level. In order to be effective, policy measures aimed at addressing these challenges should consider the range of environmental and other challenges facing agriculture. The aim of this article is to 1) provide an overview and analysis of the global and European challenges facing agriculture and agricultural policy in the coming decades, and 2) to analyse the agricultural practices and policies that are most commonly proposed in EU agricultural policy discourse to address the different challenges, along with a review of the current EU policy framework. This discussion comes at a crucial time, given that conversations have now begun in EU policy circles about the post-2020 programming period for the Common Agricultural Policy (CAP).*

## **1. Global Agriculture – Drivers and challenges**

### **1.1 Social drivers and challenges**

There are a range of estimates in a wide variety of literature on the increases in food production that will be needed by 2050 to feed an estimated global population of 9 billion. Studies highlighting the need to increase production vary in their estimates from 56%<sup>1</sup> to 100-110%<sup>2</sup>. However, the assumption that food security represents a productivity challenge is still debated amongst researchers<sup>3</sup>. The Food and Agricultural Organization of the United Nations (FAO) /Intergovernmental Panel on Climate Change (IPCC) and other estimates indicate that enough food is currently produced to feed a

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<sup>1</sup> Alexandratos, N. & Bruinsma, J., 2012, *World agriculture towards 2030/2050: The 2012 revision*, ESA working paper No 12-03, Food and Agriculture Organization of the United Nations, Rome.

<sup>2</sup> Tilman, D., Balzer, C., Hill, J. & Befort, B.L., 2011, 'Global food demand and the sustainable intensification of agriculture', *PNAS*, vol.108, no. 50, pp. 20260–20264.

<sup>3</sup> For a summary see McKenzie, F.C. & Williams, J., 2015, 'Sustainable food production: constraints, challenges and choices by 2050', *Food Security*, vol. 7, pp. 221–233.

global population of 10 billion<sup>4</sup>. Despite the lack of a clear consensus, the most dominant policy discourses and solutions proposed are oriented around the challenge of significantly increasing food production by 2050. There is a need for more clarity on this issue as a precursor to developing appropriate policy interventions.

Ensuring food security also encompasses a wider range of factors beyond food production. Nutrition security, access to food and the distribution of food are also important factors to be borne in mind<sup>5</sup>. An estimated 795 million people currently suffer from chronic hunger<sup>6</sup>, over 2 billion are undernourished<sup>7</sup>, while at the same time 1.9 billion people are overweight or obese<sup>8</sup>. The seminal study by Amartya Sen has provided evidence that famine is a function of access to food, rather than food availability<sup>9</sup>. Therefore, even if it is confirmed that food production will have to be increased to feed a growing population, this will not ensure food and nutrition security if issues of the distribution and quality of that food supply are not also addressed.

Additional social pressures include the issue of global food waste, which has recently gained more importance amongst the public and policy makers. At present, an estimated 25% of all food calories are lost or wasted, once more suggesting the need for change and policies targeting not only agricultural production, but also various actors in the global supply chain and institutions that impact on the distribution of food<sup>10</sup>.

Finally, agricultural production also faces challenges related to changing dietary habits. The growing global demand for meat, dairy, sugar and vegetable oils, is predicted to increase, thus placing additional pressure on agricultural resources<sup>11</sup>. All of the above areas should be considered to ensure food security in a way that uses natural resources in the most efficient and effective ways possible in order to reduce pressure on food supply and on the environment.

## 1.2 Environmental drivers and challenges

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<sup>4</sup> FAO, 2016, *Climate change & food security: risks & responses*, Food and Agriculture Organization of the United Nations, Rome; also, in 2005-7, global agriculture produced an average 2770 calories per person per day (McKenzie & Williams, 2015); Holt-Giménez, E., Shattuck, A., Altieri, M. & Gliessman, S., 2012, 'We Already Grow Enough Food for 10 Billion People...and Still Can't End Hunger', *Journal of Sustainable Agriculture*, vol.36, no.6, pp. 595-598.

<sup>5</sup> On nutrition security see for example Popkin, B.M., 2001, 'Nutrition in transition: the changing global nutrition challenge', *Asia Pacific Journal of Clinical Nutrition*, vol. 10, Suppl, pp. S13-S18.

<sup>6</sup> FAO, 2015, *The State of Food Security in the World*, Food and Agriculture Organization of the United Nations, Rome.

<sup>7</sup> FAO, 2014, *Food and Nutrition in Numbers 2014*, Food and Agriculture Organization of the United Nations, Rome.

<sup>8</sup> WHO, 2016, *Obesity and Overweight*, Factsheet, <<http://www.who.int/mediacentre/factsheets/fs311/en/>> (8 July 2016).

<sup>9</sup> Sen, A., 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, Oxford: Oxford University Press.

<sup>10</sup> European Commission, 2015, 'Global food security: challenges and options', *EU Agricultural Market Briefs*, no.9, pp. 1-16.

<sup>11</sup> OECD-FAO, 2011, *Agricultural outlook 2011–2020*, OECD and FAO Publishing, Paris.

To maintain agricultural productivity in the long run, food production has to address a range of environmental challenges. The United Nations Environment Programme (UNEP) predicts that up to 25% of global food production could be lost this century due to land degradation, water scarcity, invasive pests and climate change<sup>12</sup>. Other environmental challenges include the loss of on-farm biodiversity, competition for land use from other areas of the bioeconomy<sup>13</sup>, scarcity or unsustainable management of resources and inputs such as land<sup>14</sup> and phosphorus<sup>15</sup>, decreasing returns on inputs<sup>16</sup>, loss of crop diversity<sup>17</sup> and resistance to agri-chemicals<sup>18</sup>.

On top of all this, climate change presents a double challenge for agriculture to both mitigate<sup>19</sup> and adapt to changing weather patterns and extreme events. Threats will vary geographically, from desertification and water scarcity in some regions, to increased precipitation and heightened risks due to pests and diseases in other regions<sup>20</sup>.

### 1.3 Economic drivers and challenges

Globally farmers are also facing a range of economic challenges, notably market volatility<sup>21</sup>, the high costs of inputs<sup>22</sup> and economic uncertainties related to global commodity markets and supply chains. These issues of economic sustainability will have to be integrated into assessments, as well as policy responses aimed at sustainable productivity growth, in order to ensure that they are economically viable or involve sufficient support to make them so.

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<sup>12</sup> UNEP, 2009, *The environmental food crisis: The environment's role in averting future food crises*, United Nations Environment Programme, Nairobi.

<sup>13</sup> For a definition see <<https://ec.europa.eu/research/bioeconomy/index.cfm>> (14 December 2016).

<sup>14</sup> European Commission, COM(2011) 571 final, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a Roadmap to a Resource Efficient Europe.

<sup>15</sup> Whether land and inputs are scarce or able to be managed sustainably is something that is debated amongst researchers; see, for example, the discussions on phosphorus and land in McKenzie and Williams, 2015.

<sup>16</sup> It now takes 2–3 times more fertilisers and 1.5 times more pesticides to produce 1 kg of food than it did 40 years ago (UNCTAD, 2010, 'Agriculture at the crossroads: Guaranteeing food security in a changing global climate'. *Policy briefs*, no. 18, United Nations Conference on Trade and Development, Geneva).

<sup>17</sup> Khoury C.K., Bjorkman, A.D., Dempewolf, H., Ramirez-Villegas, J., Guarino, L., Jarvis, A., Rieseberg, L.H. & Struik, P.C., 2014, 'Increasing homogeneity in global food supplies and the implications for food security', *PNAS*, vol. 111, no. 11, pp. 4001-4006.

<sup>18</sup> See e.g. European Commission, 2015, 'Global food security: challenges and options', *EU Agricultural Markets Briefs*, No. 9, pp. 1-16—specialised systems are at risk of increased sensitivity to pests and diseases.

<sup>19</sup> Including through carbon sequestration and nitrogen fixing, reduced livestock production, and reducing deforestation for agricultural production.

<sup>20</sup> See FAO, 2016, pp. 3-8.

<sup>21</sup> FAO-OECD, 2011, *Price volatility in food and agricultural markets: policy responses*, FAO/OECD, Rome.

<sup>22</sup> OECD, 2011, *Fostering Productivity and Competitiveness in Agriculture*, OECD Publishing.

## 2. European Agricultural Challenges

### 2.1 Environmental challenges

EU agriculture faces challenges both common and distinct to those at the global level. The European Commission Standing Committee on Agricultural Research's third Foresight report concluded that 'a radical change in food consumption and production in Europe is unavoidable to meet the challenges of scarcities and to make the European agro-food system more resilient in times of increasing instability and surprise'<sup>23</sup>.

Farming systems in the EU are amongst the most intensive in the world<sup>24</sup>, presenting a range of specific sustainability and productivity challenges. Whilst EU agricultural productivity has massively increased in recent decades<sup>25</sup>, there has been a slowdown in the rate of productivity growth since the mid-1990s in OECD countries<sup>26</sup>. Recent research has also suggested that intensification has even had a negative impact on EU agricultural productivity (defined as output per hectare) since the 1990s<sup>27</sup>. The area of cultivable land in Europe has also been diminishing by around 0.3% p.a. since the 1960s<sup>28</sup>, creating pressure to produce more on the same or a smaller land mass. On top of this, the agricultural sector in the EU faces competition for land use, for example for implementing the 'greening measures'<sup>29</sup> introduced into the CAP in 2013, and from EU biofuel policy targets which in 2010 were estimated to represent 32% of all energy produced by crops<sup>30</sup>. Furthermore, whilst the major increases in food demand will occur outside Europe, EU agriculture is interlinked with global pressures, not least as it represents around 18% of world food exports<sup>31</sup>.

Evidence suggests that intensification practices in terms of input use, cropping intensity and economies of scale in the EU have caused significant environmental costs in terms

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<sup>23</sup> Standing Committee on Agricultural Research (SCAR), 2011, *Sustainable food consumption and production in a resource-constrained world – 3<sup>rd</sup> SCAR Foresight Exercise*, European Commission, Brussels.

<sup>24</sup> Measured in terms of per hectare- production value, capital stock, use of tractors, fertilisers and pesticides (IEEP, 2014, *Sustainable Intensification of European Agriculture - A review sponsored by the RISE Foundation*, London and Brussels).

<sup>25</sup> European Commission, COM(2012) 79 final, Communication from the Commission to the European Parliament and the Council on the European Innovation Partnership 'Agricultural Productivity and Sustainability'.

<sup>26</sup> Alston, J.M., Babcock, B.A. & Pardey, P.G. (eds.), 2010, *The Shifting Patterns of Agricultural Productivity Worldwide*, Iowa State University, Iowa.

<sup>27</sup> Antonini, C. & Argilés-Bosch, J.M., 2016, 'Productivity and environmental costs from intensification of farming. A panel data analysis across EU regions', *Journal of Cleaner Production*, (in press), pp. 1-8.

<sup>28</sup> Buckwell, A., Nordang Uhre, A., Williams, A., Poláková, J., Blum, W.E.H., Schiefer, J., Lair, G.J., Heissenhuber, A., Schießl, P., Krämer, C. & Haber, W., 2014, *The Sustainable Intensification of European Agriculture*, RISE Foundation/IEEP.

<sup>29</sup> These are mandatory farm management practices which farmers are required to implement, or they lose up to 30% of their Basic Payment Scheme Payment. They apply to three areas – crop diversification, ecological focus areas and measures to maintain permanent grassland.

<sup>30</sup> Searchinger, T., Hanson, C., Ranganathan, J., Lipinski, B., Waite, R., Winterbottom, R., Dinshaw, A. & Heimlich, R., 2014, 'Creating a Sustainable Food Future – A menu of solutions to sustainably feed more than 9 billion people by 2050', *World Resources Report 2013-14: Interim Findings*, World Resources Institute.

<sup>31</sup> COM(2012) 79 final.

of soil degradation<sup>32</sup>, loss of on-farm biodiversity, the pollution of water, air and soil particularly by nitrates and the loss of diversity in crop varieties<sup>33</sup>. Soil management is a major concern, 45% of soils in the EU have low levels of organic matter for example, and over 25% of EU land is affected by soil erosion<sup>34</sup>. The issue of pollinator decline, especially of honeybees and butterflies, linked *inter alia* to habitat loss, pesticides and pathogens<sup>35</sup>, has received growing attention in recent years because of its potential long term impact on production systems.

EU agriculture must also respond to the global challenge to adapt to and mitigate climate change. Despite some limits to reducing agricultural GHG emissions<sup>36</sup>, the agricultural sector will be expected to contribute to mitigation efforts through both removals of GHGs in the atmosphere ('sinks') and emission reductions,<sup>37</sup> which will also increase in importance as other sectors fulfill their potential for emission reductions. One example of an EU funded research project looking into agricultural adaptation to climate change is MACSUR (Modelling European Agriculture with Climate Change for Food Security). Through case studies across the EU, the project has found a range of impacts across the EU including warmer winters, increased rainfall, summer droughts, heatwaves, longer growing seasons, and increases in extreme weather risks such as flooding<sup>38</sup>. As these effects vary significantly by region, including how they interact with other stressors, the challenge for EU wide policy will be to provide the appropriate enabling environment for the form of agriculture it wants to see, whilst allowing enough flexibility to adapt to local circumstances.

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<sup>32</sup> European Environment Agency (EEA), 2015, *The European Environment State and Outlook 2015 - Synthesis Report*, EEA, Copenhagen.

<sup>33</sup> Stoate, C., Báldi, A., Beja, P., Boatman, N.D., Herzog, I., van Doorn, A., de Snoo, G.R., Rakosy, L. & Ramwell, C., 2009, 'Ecological impacts of early 21st century agricultural change in Europe – A review', *Journal of Environmental Management*, vol. 91, pp. 22–46.

<sup>34</sup> EEA, 2015.

<sup>35</sup> Potts S., Biesmeijer K., Bommarco R., Breeze T., Carvalheiro L., Franzén M., González-Varo J.P., Holzschuh A., Kleijn D., Klein A.-M., Kunin, B., Lecocq T., Lundin O., Michez D., Neumann P., Nieto A., Penev L., Rasmont P., Ratamäki O., Riedinger V., Roberts S.P.M., Rundlöf M., Scheper J., Sørensen P., Steffan-Dewenter I., Stoev P., Vilà M. & Schweiger O., 2015, *Status and trends of European pollinators. Key findings of the STEP project*, Pensoft Publishers, Sofia.

<sup>36</sup> European Commission, SEC(2009)1093, *The role of European Agriculture in Climate Change Mitigation*, Staff Working Document.

<sup>37</sup> As evidenced in the EU's NDC to the Paris Agreement, the CAP reform provisions on climate action, and the recent EU decisions on LULUCF and ESD.

<sup>38</sup> MACSUR, n.d., *Regional Case Studies*, <<http://macsur.eu/index.php/regional/regional-case-studies>> (7 July 2016).

## 2.2 Social challenges

EU food production faces other demographic and economic challenges too, in particular an ageing farming population<sup>39</sup>, significant barriers to entry for young farmers<sup>40</sup>, increasing farmland abandonment<sup>41</sup>, and threats to the economic viability of farming<sup>42</sup>. For several decades, the number of farms in the EU has been declining at a far faster rate than the decline in utilised agricultural area: between 2005 and 2010, the average decline was at 3.7% per year<sup>43</sup>. This reflects both increasing land abandonment and increasing farm size which could affect productivity and sustainability, although research in this area has yielded mixed results which vary according to the indicators and definitions used<sup>44</sup>.

The enormity and complexity of the aforementioned challenges will require significant and sophisticated policy interventions in order to steer agriculture on the necessary path to meeting these challenges. Interdisciplinary and holistic approaches will be needed to address the challenges of productivity and sustainability in EU agriculture and to design appropriate policies. This should cover environmental, economic, social and legal factors relevant to promoting sustainable food security through agriculture, along with agriculture's complex interactions with other EU policies.

## 2.3 Different EU approaches to agricultural productivity and sustainability

As stated above, agriculture in the EU faces many challenges with regards to its ability to contribute to these objectives while guaranteeing environmental sustainability and resilience to climate change will undoubtedly require profound changes, not only in farming practices, but also in food systems as a whole. The paradigm shifts necessary to increasing or maintaining sufficient agricultural productivity, while remaining environmentally friendly, may take on many different names. However, a growing debate in the European policy sphere and academia opposes—and, at times, attempts to reunite—two major pathways; namely, sustainable intensification and agro-ecology.

Sustainable intensification can be defined as a paradigm in which 'yields are increased without adverse environmental impacts and without the cultivation of more land'<sup>45</sup>.

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<sup>39</sup> IIEA, 2015, *Towards a Sustainable Agriculture: A Workshop on Global and EU Medium and Long-term Policies*, IIEA, Dublin; European Commission (2014) *The EU Explained: Agriculture*, Publications Office of the EU, Luxembourg.

<sup>40</sup> European Commission, 2013, pp. 1-15.

<sup>41</sup> Terres, J-M. Nisini Scacchiafichi, L., Wania, A., Ambar, M., Anguiano, E., Buckwell, A., Coppola, A., Gocht, A., Nordström Källström, H., Pointereau, P., Strijker, D., Visek, L., Vranken, L. & Zobena, A., 2015, 'Farmland abandonment in Europe: Identification of drivers and indicators, and development of a composite indicator of risk', *Land Use Policy*, vol. 49, pp. 20-34.

<sup>42</sup> SCAR, 2011.

<sup>43</sup> European Commission, 2013.

<sup>44</sup> OECD, 2011, pp. 64-65.

<sup>45</sup> The Royal Society, 2009, *Reaping the benefits: Science and the sustainable intensification of global agriculture*, <[https://royalsociety.org/~media/Royal\\_Society\\_Content/policy/publications/2009/4294967719.pdf](https://royalsociety.org/~media/Royal_Society_Content/policy/publications/2009/4294967719.pdf)> (11 July 2016).

Proponents of the sustainable intensification concept generally argue that in order to preserve landscapes and maintain or improve current levels of biodiversity and ecosystem service provisions in natural areas, farming must be intensified on existing agricultural land while wetlands, forests, grasslands and other land must be spared. The land sparing approach is often associated with the use of technology in the service of the two objectives inherent to sustainable intensification, guaranteeing environmental sustainability while increasing agricultural productivity. These technologies may include, among others:

- Precision agriculture including the use of satellite imagery and GPS guidance to dose fertiliser applications efficiently;
- Agricultural biotechnologies, including the use of genetic engineering and other advanced plant, as well as animal breeding techniques;
- Algorithmic decision-making tools relying on sensor data and remote sensing to support human analysis by farmers.

Most proponents of sustainable intensification insist on the fact that the paradigm should not be thought of as involving simply increasing the use of technical inputs such as mechanised machinery, fertilisers and pesticides. Instead, it is generally agreed that achieving sustainable intensification requires significant changes to agricultural systems. Better care of soils and water and proper attention to soil microbial biodiversity are both crucial pillars of sustainable intensification.

In contrast to sustainable intensification, the pathway—or more accurately, the collection of pathways—identified as agroecology aims not to avoid the conversion of natural areas to agricultural land, but to have agriculture coexist with other ecosystem services, within the agroecological boundaries of local environments. For this reason, it is also referred to as the land-sharing approach. Not unlike sustainable intensification, the concept of agroecology is not highly prescriptive, with regards to farming methods, and as a result it is more of a philosophy than a tool (such as precision farming) or an agricultural system (like agroforestry). However, there is a general preference within the agroecological movement for organic agriculture, despite chemical inputs being permitted, for diversification of inputs and outputs into the agricultural system, and for smallholder farming over large holdings<sup>46</sup>. The agroecological paradigm encompasses a number of different farming systems, tools and techniques, such as:

- Organic agriculture—although the use of synthetic pesticides and fertilisers is not incompatible with agroecology *per se*, the farming practices associated with agroecology are often of such a nature that they meet the criteria for being certified as organic;

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<sup>46</sup> Garnett, T. & Godfray, C., 2012, *Sustainable intensification in agriculture. Navigating a course through competing food system priorities*, Food Climate Research Network and the Oxford Martin Programme on the Future of Food, University of Oxford, UK, p.51, <<http://futureoffood.ox.ac.uk/sites/futureoffood.ox.ac.uk/files/SI%20report%20-%20final.pdf>> (11 July 2016).

- High nature value (HNV) farming systems, which include a range of traditional, non-intensive farming practices are generally accepted as being favourable to on-farm biodiversity;
- Mixed farming, i.e. integrated crop-livestock farming systems—such systems may be *in situ*, with e.g. cattle grazing crop residues or grasses on fallow land, or *ex situ*, in which animal waste is returned to the land as organic fertiliser<sup>47</sup>;
- Agroforestry, e.g. silvo-pastoral systems such as the Spanish *dehesa*, where livestock is allowed to graze on wild, forested meadows—helping to fight erosion, among others; or intercropping of e.g. olive trees and cereal crops as a way to stabilise incomes;
- Perennialising crops - agronomists and plant breeders are seeking to create new crops based on, or similar to, highly productive annual cereal and oilseed crops, yet perennial, as perennial cultures provide many environmental benefits such as erosion control and are often efficient in water and nutrient use thanks to greatly developed root systems;
- Smallholder farming

Some authors<sup>48</sup> present the sustainable intensification and agroecology paradigms as conflicting. Sustainable intensification often appears as a top-down, technologically idealistic paradigm—surprisingly, as it was originally applied within the context of smallholder agriculture in Africa<sup>49</sup>—while agroecology is generally seen as comprising bottom-up approaches, inspired by traditional smallholder farming and indigenous knowledge of ecosystems. However, some take a more conciliatory approach, describing sustainable intensification as an objective, and agroecology—alongside conventional and organic agriculture—as the approaches to reach it<sup>50, 51</sup>.

A significant body of academic literature and a number of research projects have been devoted to the study of pathways to agricultural sustainability<sup>52</sup>. Given the scale and complexity of challenges to be overcome, and moreover their fundamental relevance to human survival, research and policy prescriptions would benefit from honestly

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<sup>47</sup> Soussana, J.F. & Lemaire, G., 2014, 'Coupling carbon and nitrogen cycles for environmentally sustainable intensification of grasslands and crop-livestock systems', *Agriculture, Ecosystems & Environment*, 190, pp. 9-17.

<sup>48</sup> Soussana, J.F., 2015, *Food and nutritional security in the context of climate change: eco-efficiency or agroecology?*, <[http://ec.europa.eu/agriculture/expo-milano-2015/cap-events/global-food-security-challenges/soussana\\_en.pdf](http://ec.europa.eu/agriculture/expo-milano-2015/cap-events/global-food-security-challenges/soussana_en.pdf)> (11 July 2016).

<sup>49</sup> Garnett & Godfray, 2012, p. 51.

<sup>50</sup> Garnett, T., Appleby, M.C., Balmford, A., Bateman, I. J., Benton, T. G., Bloomer, P., Burlingame, B., Dawkins, M., Dolan, L., Fraser, D., Herrero, M., Hoffmann, I., Smith, P., Thornton, P. K., Toulmin, C., Vermeulen, S. J. & Godfray, H. C. J., 2013, 'Sustainable intensification in agriculture: premises and policies', *Science*, vol. 341, no. 6141, pp. 33-34.

<sup>51</sup> Cook, S., Silici, L., Adolph, B & Walker, S., 2015, 'Sustainable intensification revisited', *IIED Briefing Paper*, pp. 1-4.

<sup>52</sup> E.g. the FarmPath FP7 project, *Farming Transitions: Pathways Towards Regional Sustainability of Agriculture in Europe*; the SASSPO FP6 project, *Agriculture for sustainable development: A dialogue on societal demand, pressures and options for policy*; or the fourth Foresight report by the Standing Committee on Agricultural Research (SCAR).

interrogating each solution proposed, including its potential merits and downsides. This would form the basis for policy decisions made about the best evidence available about their impacts on productivity and sustainability criteria using a systems approach.

### 3. EU Agriculture and Environmental Policy

For effective policy design in the EU, it is important to consider the current policy context within which farmers and other food sector actors operate. This is especially pertinent as the discussions have now begun for the next programming period for the CAP from 2020 onwards.

#### 3.1 Strategic policy framework

The Europe 2020 Strategy, as specified in the Communication from the Commission<sup>53</sup>, aims to turn the EU into a smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion. The Strategy is the common reference document for all European policy support instruments for the programming period 2014–2020.

#### 3.2 The CAP

The CAP is one of the oldest and most integrated of EU policies. It has gone through successive reform processes over the last 50 years. During the most recent CAP reform, more emphasis was placed on the provision of public goods such as ecosystem service and climate change action while maintaining the competitiveness of the European agricultural sector and guaranteeing adequate income to farmers. The three CAP general objectives<sup>54</sup>, feeding into the Europe 2020 objectives are:

- Viable food production, with a focus on agricultural income, agricultural productivity and price stability;
- Sustainable management of natural resources and climate action, with a focus on greenhouse gas emissions, biodiversity, soil and water;
- Balanced territorial development, with a focus on rural employment, growth and poverty in rural areas.

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<sup>53</sup> European Commission, COM (2010) 2020 final, EUROPE 2020, A strategy for smart, sustainable and inclusive growth.

<sup>54</sup> See Art. 110, Horizontal Regulation– Regulation (EU) No 1306/2013 of the European Parliament and of the Council of 17 December 2013 on the financing, management and monitoring of the common agricultural policy and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008.

These general objectives are broken down into specific objectives, some of which are common to both CAP pillars and others specific for Pillar I (direct payments) or Pillar II (rural development). For Pillar I, there are six specific objectives that broadly translate into:

- Agricultural income;
- Market support;
- Provision of public goods;
- Climate change mitigation and adaptation.

These objectives are addressed by its instruments i.e. Direct Payments, Single Common Market Organisation (CMO) and other more specific instruments.

In Pillar II, six European-level priorities translate the EU2020 goals and CAP objectives into rural development interventions, as defined in the Rural Development Regulation<sup>55</sup>. Member States and regions draw up their rural development programmes based on the needs of their territories and by addressing at least four of the following six common EU priorities:

- fostering knowledge transfer and innovation in agriculture, forestry and rural areas;
- enhancing the viability and competitiveness of all types of agriculture, and promoting innovative farm technologies and sustainable forest management;
- promoting food chain organisation, animal welfare and risk management in agriculture;
- restoring, preserving and enhancing ecosystems related to agriculture and forestry;
- promoting resource efficiency and supporting the shift towards a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors;
- promoting social inclusion, poverty reduction and economic development in rural areas.

Looking towards the post-2020 CAP programming period, a thorough understanding of the relationship between the CAP measures and the transition to more sustainable agricultural practices and food systems will be key to determining the best possible contribution that EU agricultural policy can make to address the challenges faced at the EU and global levels. This will include the effects of CAP measures on farmers'

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<sup>55</sup> Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006.

behaviour, leading to the development of certain types of farming systems, farm management practices and to the geographical distribution of production.

### 3.3 Other EU-level policies

Analysis relating to identifying solutions and potential policies for addressing the challenges highlighted in this article should also consider other relevant EU policies that affect agricultural production systems and farming practice, either indirectly through cross-compliance as defined in the Horizontal Regulation<sup>56</sup>, or legislation with direct effect such as:

- **Water Framework Directive**<sup>57</sup>, the objective of which is the good ecological status of water, thereby also creating protected areas;
- **Nitrates Directive**<sup>58</sup> or **Drinking Water Directive**<sup>59</sup> have an impact on feed and nutrients used in farming;
- **Biocidal Products Regulation**<sup>60</sup> and other legislation regarding plant protection products and substances altering soil and water biodiversity, in particular the **Biocidal Sustainable Use of Pesticides Directive**<sup>61</sup>;
- **Birds Directive**<sup>62</sup> and **Habitats Directive**<sup>63</sup> (also referred to as 'the Nature Directives') which are the prominent EU instruments for nature conservation and preservation, bearing a direct link between agriculture and biodiversity.

## 4. Concluding remarks

This article has reviewed the challenges facing global and EU agriculture in the coming decades, along with many of the drivers of these changes. The situation in the EU is both similar to and distinct from the global outlook. In both cases, there are a range of complex and interrelated economic, social and environmental factors to consider. This article has argued that the beginning of discussions on the post-2020 CAP reform presents an important opportunity to assess the role of EU agricultural and related policies in addressing the challenges faced. Due to political and practical feasibility, a range of different solutions and technologies may be needed. It is important to reflect critically

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<sup>56</sup> Regulation (EU) No 1306/2013 on the financing, management and monitoring of the common agricultural policy.

<sup>57</sup> Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy.

<sup>58</sup> Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources.

<sup>59</sup> Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption.

<sup>60</sup> Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products.

<sup>61</sup> Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides.

<sup>62</sup> Council Directive 2009/147/EC on the conservation of wild birds.

<sup>63</sup> Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora.

and honestly on the merits and disadvantages of solutions proposed, from environment, economic, social and political angles and across disciplines in order to identify that range.

# THE DEVELOPMENT OF PRIVATE PLACEMENT OF DEBT IN THE EU

*Jūlija Sproģe, Dr. Véronique Bruggeman and Athena Christophi*

**Keywords:** financial crisis, European Union, bank lending, capital market products, alternative funding, private placement, debt, best practices, investors, Capital Markets Union, Euro PP, Schuldschein

The financial crisis and banking failure have had a negative impact on economic growth in Europe; banks have come under increased scrutiny, and access to bank lending has become increasingly difficult, and rebalancing the market with an increase in alternative capital market products has become vital for the regulatory regime. One of the ways to achieve this goal is to introduce market products similar to those available in the United States of America, where the market for non-banking lending is well-established and amounts raised through unregistered securities offerings exceeded \$2 trillion in the year 2014<sup>1</sup>. In addition, a more competitive market - with only a few too-big-to-fail banks, less government support and a restraint on large capital buffers - will open up opportunities for alternative credit providers to enter the lending market and, as a result, revitalise the economy.

One of the solutions to the aforementioned problems is to encourage alternative funding arrangements. Therefore, the European Commission wants to develop private placement<sup>2</sup> markets across the European Union, while at the same time safeguarding investor protection and financial stability. However, and as already stated in the Impact Assessment Report on Private Placement<sup>3</sup>,

‘Until now, EU financial legislation has not attempted to introduce a coherent set of provisions to facilitate cross-border private placement. Existing EU financial legislation focuses on the regulatory conditions that must be applied when instruments are offered to the public, or placed on the public market. There is therefore a legal vacuum at EU level when it comes to private placements. However, EU financial legislation does contain isolated provisions that are relevant – either because they switch off certain regulatory requirements when

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<sup>1</sup> Bauguess, S., Gullapali, R. & Ivanov, V., October 2015, *Capital Raising in the U.S.: An Analysis of the Market for Unregistered Securities Offerings, 2009-2014*, <<https://www.sec.gov/dera/staff-papers/white-papers/unregistered-offering10-2015.pdf>> (3 May 2016), p. 1.

<sup>2</sup> A private placement of debt (henceforth ‘private placement’) is ‘a medium or long-term debt financing transaction between a listed or unlisted company and a small number of institutional investors, based on deal-specific documentation negotiated between the borrower and the investor(s), generally but not necessarily with the participation of one or more bank intermediaries as arranger usually acting in an agency capacity (i.e. as a facilitator between the Borrower and the Investor, but not as an underwriter of the debt)’ (ICMA, 2015).

<sup>3</sup> Commission of the European Communities, 17 July 2015, *Commission Staff Working Document: Impact Assessment Report on Private Placement*, SEC(2008)234, p. 14

securities are not offered to the public, or because they contain references which may be relevant when considering the parameters of an eventual EU private placement regime'<sup>4</sup>.

The situation since the 2008 Impact Assessment report has not changed considerably; the reason for this is that there is still no EU legislation specifically designed with the goal of regulating the EU private placement regime in mind.

In order to encourage (transboundary) private placement markets – and in accordance with the Capital Market Union's Action Plan - there is a need to clarify those applicable legal rules (including soft law) that could hinder the uptake of private placements (especially in those jurisdictions in which the funding channel is still underdeveloped), to tackle current and potential future legal barriers and to disseminate the best practices identified in some well-established private placement markets.

Based on the chart provided by Standards & Poor's<sup>5</sup> 'First European Private Placement League Table', jurisdictions in which the private placement funding tool has already been successful include: France, Germany, Italy, UK, Belgium and Sweden.

Outside the EU, private placement is well-developed in the USA, Japan, Australia, Hong Kong, Singapore and Switzerland<sup>6</sup>.

Below is a short overview of the national provisions that apply to private placements in France, Germany and the USA in order to glean some basic insights on possible regulatory best practices. It must first be noted that, under EU law, the law governing a contract is chosen by the parties. Any law can be chosen, irrespective of the registered address, the nationality of parties or the place of listing, subject to the existence of an 'international' element that justifies the choice made<sup>7</sup>.

In **France**, the Euro Private Placement (hereafter 'Euro PP'<sup>8</sup>) working group - which is composed of several professional organisations under the auspices of the *Banque de France*, the French Treasury and the Paris IDF Chamber of Commerce and Industry - has drafted a Charter to facilitate financing for intermediate-size enterprises and SMEs, whether listed or not; this Charter helps enterprises that would be unable to access international bond markets, due to the fact that they are not rated by a ratings agency. This Charter is generally considered to be a best practices document for French and international investors as it has, in fact, facilitated the development of the Euro PP

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<sup>4</sup> Commission of the European Communities, *Commission Staff Working Document: Impact Assessment Report on Private Placement*, p. 12.

<sup>5</sup> The Chart is quoted from: DLA Piper, Private Placement: Redefining the European Finance Market Through Private Placement, <<http://www.lexology.com/library/detail.aspx?g=9e2f9a59-c756-4eb7-9c27-f96892f0e9b2>> (3 May 2016).

<sup>6</sup> Commission of the European Communities, *Commission Staff Working Document: Impact Assessment Report on Private Placement*, p. 8.

<sup>7</sup> Euro PP web-page, <<http://www.euro-privateplacement.com/>> (8 January 2017).

<sup>8</sup> A Euro PP is a 'medium or long-term financing transaction between a listed or unlisted company and a limited number of institutional investors' (<<http://www.euro-privateplacement.com/>> (3 May 2016). It is based on documentation related to the deal negotiated between the borrower and the investor, generally with the participation of an arranger. The negotiation of contractual terms and conditions distinguishes Euro PP from public and syndicated bond issues.

market<sup>9</sup>. In France, the *Association française des marchés financiers* (AMAFI) also published, on 13 January 2016, a 'Code of best practice for Euro PP arrangers', which is specifically directed towards the financial intermediaries acting as arrangers in Euro PP transactions. Finally, a working group has been set up that is dedicated to the 'legal and regulatory environment of Euro PPs'<sup>10</sup>. The main legislation in France governing private placements is *Loi n° 2005\_842 du 26/7/2005 pour la confiance et la modernisation de l'économie*, which has transposed the Prospectus Directive into the French legal order. This law is further supported by the following quasi-legal instruments that do not have any legally binding force (i.e. 'soft law'): Information Memorandum; Form of Non-Disclosure Agreement; Terms and Conditions of a contract; Due Diligence Questionnaire as well as Code of best practice<sup>11</sup>. However, most importantly, the Euro PP model contracts provide the French governing law for borrowers, with their head office in France.

The *Schuldschein* market in **Germany** is booming and undoubtedly constitutes a best practice case for the development of private placements in Europe. The term *Schuldschein*, albeit not legally defined, refers to bilateral loan agreements unique to the German market, for which a certificate of indebtedness (the *Schuldschein*) stating that the loan receivable has been issued. The *Schuldschein* serves merely as documentary evidence of the underlying loan and does not constitute a security under German civil and commercial law, while the *Schuldschein* loan itself is considered to be a special form of loan contract governed by section 488 et seqq. of German civil code<sup>12</sup>.

Not being considered as a security signifies that *Schuldschein* loans escape the application of the German Securities Trading Act and the Securities Prospectus Act and are exempted from the extensive reporting and transparency obligations contained therein, such as the publication of a prospectus<sup>13</sup>. *Schuldschein* loans may not be listed or traded, are typically unsecured and can be granted to issuers that are not publicly rated. As these features translate into lower costs, they render such loans a viable and attractive financing option for a great pool of issuers seeking medium to long-term financing. Even though nowadays borrowers increasingly include SMEs, the traditional, largest *Schuldschein* debtors are the German federal states, municipal authorities and well-known German corporations<sup>14</sup>. Recent years has witnessed the increased

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<sup>9</sup> Euro PP web-page.

<sup>10</sup> This working group is composed of representatives of borrowers, intermediaries and investors and co-headed by Hubert de Vauplane (Kramer Levin), Hubert du Vignaux (Gide) and Marc-Etienne Sébire (CMS Bureau Francis Lefebvre), who answered 'Frequently Asked Questions' on the Euro Private Placement (Euro PP) market in March 2016: What is a Euro Private Placement (Euro PP)? Who are the members of the Euro PP Working Group? What is the Euro Private Placements (Euro PP) Charter? Where can I find a Euro PP model contract? Are the Euro PP model contracts tailored to my situation? How does the representation of investors work under French law? What is a masse? Should I get my Euro PP listed? Which law should govern my Euro PP transaction? What is done in case of insolvency of the borrower? <[http://www.euro-privateplacement.com/EuroPP-FAQ\\_March\\_2016-eng.pdf](http://www.euro-privateplacement.com/EuroPP-FAQ_March_2016-eng.pdf)> (3 May 2016).

<sup>11</sup> Euro PP web-page.

<sup>12</sup> Koller, R., 2014, *Advanced Schuldschein Guide*, a Simmons & Simmons LLP publication, p. 2.

<sup>13</sup> The Euro PP Working Group Documents are available free of charge, in English and in French, at <<http://www.euro-privateplacement.com>> (3 May 2016).

<sup>14</sup> Koller R., 2014, p. 5.

internationalisation of the *Schuldschein* market, with several companies and investors coming from other Member States or even third countries choosing this product<sup>15</sup>.

The success of the *Schuldschein* market is due to several factors that go well beyond the lower costs associated with the inapplicability of the prospectus and transparency obligations. *Schuldschein* loans are documented in a lean, straightforward and particularly short way, often not exceeding 20 pages<sup>16</sup>. Flexibility is another one of the *Schuldschein* market's important components.

Unlike bonds, *Schuldschein* loans cannot be listed on a stock exchange and the secondary market for these products is significantly less liquid. However, this has not been detrimental to the flourishing of the market. *Schuldschein* loans are perceived to have a long-term investment character, with the investor profile normally being limited to regional banks, savings and cooperative banks and institutional investors who target 'buy and hold' investments. Recent regulatory changes, approved by the Federal Supervisory Authority, have significantly facilitated insurance companies' investments in this product<sup>17</sup>.

In addition to being among the principal investors in *Schuldschein* issues, German public banks have greatly contributed to the success of the *Schuldschein* market through their role as arrangers of corporate *Schuldscheindarlehen*. Corporate issuers entrust banks to reach potential investors. Due to their close relationship with companies (including SMEs, which often lack a public rating), the arranging banks have the ability and expertise to conduct a comprehensive credit research and risk assessment. With German public banks acting as arrangers, a very low number of defaults or negative credit events have been observed over the years<sup>18</sup>. Banks normally retain a part of the issues they arrange for other investors, sending a clear signal to market participants that they assume responsibility for their risk assessments.

Private placement in the USA is subject to the Securities Act (1933), even though this financing tool does not have to be registered in cases where the bonds are treated as one offering<sup>19</sup>. Regulation D of the Securities Act defines private placement (or 'unregistered offering') as the issuance of debt securities that are exempt from registration under USA securities law<sup>20</sup>. These debt securities are sold directly in the private market. Investors in

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<sup>15</sup> The Association of German Public Banks, August 2015, *Schuldscheindarlehen Private Placements: Best Practice for European Capital Markets Union*, viewed at <<https://www.voeb.de/de/publikationen/fachpublikationen/schuldscheindarlehen-best-practice-capital-markets-union>> (3 May 2016), p. 14.

<sup>16</sup> The Association of German Public Banks, p. 8.

<sup>17</sup> Linhardt, S., 31 March 2014, *The Schuldschein- Germany's corporate finance export*, <<http://www.globalcapital.com/article/kqthvckhy85j/the-schuldschein-germanys-corporate-finance-export>> (3 May 2016), p. 27.

<sup>18</sup> The Association of German Public Banks, August 2015, p. 13.

<sup>19</sup> For more information, see Ashurst Australia, 6 March 2013, *US Private Placements – An alternative funding source for Australian projects*, Banking & Finance Alert, <[https://www.ashurst.com/doc.aspx?id\\_Content=8876](https://www.ashurst.com/doc.aspx?id_Content=8876)> (3 May 2016).

<sup>20</sup> For more information, see: U.S. Securities and Exchange Commission, 24 September 2014, *Investor Bulletin: Private Placements Under Regulation D*, Investor Alerts and Bulletins, <[https://www.sec.gov/oiea/investor-alerts-bulletins/ib\\_privateplacements.html](https://www.sec.gov/oiea/investor-alerts-bulletins/ib_privateplacements.html)> (3 May 2016).

the private placement market in the USA include large banks, mutual funds, insurance companies and pension funds. In the same vein as commercial loans, private placements also typically result in an ongoing relationship between the issuer and the investors. Issuers may choose to offer private bonds in order to maintain the confidentiality of information regarding the company or financial data, to gain more flexibility with respect to the terms of the debt than the terms available in the public market or when the issuer lacks a significant credit history.

In the USA, investors are attracted to the private bond market by its potential yields, yields which are higher than the yields available in the public bond market. Covenant protections also give private bond holders more robust rights than those available in the public bond market. Private placement in the USA is subject to a typical concession agreement, power purchase agreement or offtake arrangement<sup>21</sup>.

Most EU private placement markets are still underdeveloped – especially when compared to the USA. Stakeholders to the Capital Markets Union consultation<sup>22</sup> mentioned that several obstacles are currently hindering the uptake of greater EU private placement markets<sup>23</sup>. In short, the main actions proposed by respondents, going beyond market-led efforts to agree common standards, related to the following: guidance, credit rating, credit information and data on SMEs, funds and guarantees; standardisation, legislative action to create a European private placement regime, Prospectus Directive, Solvency II (delegated acts), inspiration from the US, education and taxation.

One of the most significant problems for private placement development is the lack of clarity about the meaning of private placement, especially in a cross-border context. The laws of the Member States on private placement also often take the form of a series of exemptions from individual legislative provisions spread over a range of fields, such as civil law, company law, banking law, insurance law, insolvency law, tax laws and accounting rules. This leads to significant inconsistencies between national private placement regimes, especially with regards to differences in insolvency laws and diverging tax treatments.

An EU-level private placement regime is still absent due to different definitions of eligible investors and providers, different products covered by national legislation, the different disclosure requirements which exist in the Member States, different registration and notification requirements, different rules on marketing/advertisement, lack of

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<sup>21</sup> For more information, see Ashurst Australia, 6 March 2013.

<sup>22</sup> See European Commission, *Banking and Finance, Public Consultation: Building a Capital Markets Union*, <[http://ec.europa.eu/finance/consultations/2015/capital-markets-union/index\\_en.htm](http://ec.europa.eu/finance/consultations/2015/capital-markets-union/index_en.htm)> (3 May 2016).

<sup>23</sup> Question 4 in this public consultation was as follows: ‘Is any action by the EU needed to support the development of private placement markets other than supporting market-led efforts to agree common standards?’. A summary of the responses is available at European Commission, SWD(2015) 184 final, Feedback Statement on the Green Paper ‘Building a Capital Markets Union’ Accompanying Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Action Plan on Building a Capital Markets Union { COM(2015) 468 final }, <[http://ec.europa.eu/finance/consultations/2015/capital-markets-union/docs/summary-of-responses\\_en.pdf](http://ec.europa.eu/finance/consultations/2015/capital-markets-union/docs/summary-of-responses_en.pdf)> (3 May 2016).

transparency of existing national regimes, differences in national legal regimes, the application of exceptions foreseen in the bulk of national laws and the frequent changes to the applicable rules.

## LAWFUL HACKING AND FUNDAMENTAL RIGHTS

*Virginia Dalla Pozza*<sup>1</sup>

**Keywords:** lawful hacking, enforcement authorities, encryption, fundamental rights, internet, technology, data, security

Over the last few decades, law enforcement authorities have been required to adequately respond to the use of increasingly sophisticated criminal means by using different investigation methods. Among these methods, hacking techniques<sup>2</sup>, including lawful hacking, have emerged. The latter allows law-enforcement agencies to circumvent the effect of encryption for the purposes of legal investigations. Through lawful hacking, authorities are legally empowered to decrypt all types of devices such as computers, smart phones and networks<sup>3</sup>; they can intercept and access communications in order to track down criminals. Lawful hacking, then, provides law-enforcement authorities with investigative tools that are suitable to tackling the challenges brought about by the rapid evolution of technology.

Although adequate safeguards do exist to prevent abuses by the investigative powers at the national level, the risk that lawful hacking might interfere with fundamental rights remains high<sup>4</sup>. Among others, the following rights could be violated while conducting lawful hacking: Right to data protection (Article 16 of the (Treaty on the Functioning of the European Union<sup>5</sup>); Right to respect for private and family life (Article 7 of the EU Charter on Fundamental Rights<sup>6</sup>); Right to protection of personal data (Article 8 of the EU Charter on Fundamental Rights); Freedom of expression and information (Article 11 of the EU Charter on Fundamental Rights); Freedom of assembly and of association (Article 12 of the EU Charter on Fundamental Rights).

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<sup>1</sup> This contribution has benefited from discussions with Ms Anna di Pietro, Ms Sarah De Heer and Ms Katalin Császár. The usual disclaimer applies.

<sup>2</sup> Hacking is the manipulation of software, data, a computer system, network, or other electronic device without the permission of the person or organization responsible for that software application, data, computer system, network, or electronic device, and/or without the permission or knowledge of users of that or other software, data, computers, networks, or devices ultimately affected by the manipulation.

<sup>3</sup> ISS World, 'Defeating Encryption with Lawful Hacking: Techniques for Defeating Terrorists that Investigators Need to Understand', Presentation of the Training Course, (28 April 2016), <[https://www.issworldtraining.com/ISS\\_WEBINARS/DefeatingEncryption2016.htm](https://www.issworldtraining.com/ISS_WEBINARS/DefeatingEncryption2016.htm)> (5 January 2017).

<sup>4</sup> *ibid.*

<sup>5</sup> Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union 2012/C 326/01, <<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT>> (5 January 2017).

<sup>6</sup> Charter Of Fundamental Rights Of The European Union (2000/C 364/01), <[http://www.europarl.europa.eu/charter/pdf/text\\_en.pdf](http://www.europarl.europa.eu/charter/pdf/text_en.pdf)> (5 January 2017)

It is, therefore, important that the principles of necessity and proportionality<sup>7</sup> are strictly complied with by law-enforcement agencies in order to avoid infringements upon fundamental rights. The involvement of judicial mechanisms in relation to the authorisation and oversight of these operations, as well as a form of democratic control, should also be ensured.

Lawful hacking can also affect the security of the Internet. Once the law-enforcement authorities exploit computers or systems' vulnerabilities in order to conduct investigations, the vulnerability not only affects one device or operating system, but all identical copies. Therefore, it can be used by anyone who knows of it, by the police, cyber criminals or by another country's intelligence agency for example.

Lawful hacking has both potential advantages and disadvantages. On the one hand, it ensures security and intelligence gathering; on the other hand, it implies a risk that fundamental rights will be infringed upon. Lawful hacking provides investigative tools that are suitable to the rapid evolution technology, but it also creates new vulnerabilities for Internet security and exposure to future attacks/hacking as a consequence of the vulnerabilities exploited for law-enforcement purposes. Finally, while it does have a deterrent effect on cybercriminals, it presents reduced levels of transparency as far as the techniques used by law-enforcement agencies are concerned.

Practices of lawful hacking and related activities seem to have been undertaken in some EU Member States such as France, Germany, the Netherlands, Sweden and the United Kingdom. **France** is alleged to have run or developed large-scale internet interception programmes in collaboration with the US National Security Agency (NSA)<sup>8</sup>. Allegations have emerged that the General Directorate for External Security (DGSE) intercepts and collects metadata from emails, text messages and phone records. The data is intercepted and collected by both satellite stations and interceptions from fibre-optic submarine cables. The database has also allegedly been accessed by six other intelligence services, including the customs service and the anti-money laundering service<sup>9</sup>.

**Germany's** federal police is discussing the use of a Trojan horse malware to conduct searches of targeted computers, including Skype communication and encrypted SSL traffic<sup>10</sup>. Allegations about the access, copying and storage of metadata by the

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<sup>7</sup> Art. 52 of the European Charter of Fundamental Rights explicitly allows limitations on the exercise of the rights and freedoms recognised by the Charter. However, 'subject to the principle of proportionality, limitations may be made only if they are necessary and genuinely meet objectives of general interest, recognised by the Union, or the need to protect the rights and freedoms of others.', <[www.europarl.europa.eu/charter/pdf/text\\_en.pdf](http://www.europarl.europa.eu/charter/pdf/text_en.pdf)> (5 January 2017).

<sup>8</sup> European Parliament (2013), National programmes for mass surveillance of personal data in EU Member States and their compatibility with EU law, <<https://publicintelligence.net/eu-mass-surveillance/>> (5 January 2017).

<sup>9</sup> France 'runs vast electronic spying operation using NSA-style methods', <<https://www.theguardian.com/world/2013/jul/04/france-electronic-spying-operation-nsa>> (5 January 2017).

<sup>10</sup> Bundestrojan: German police is cleared to use malware in spying on suspects, <<https://www.rt.com/news/333304-german-police-spying-malware/>> (5 January 2017).

*Bundesnachrichtendienst* (Federal Intelligence Service) for intelligence purposes have also emerged<sup>11</sup>.

There is currently an ongoing discussion in **The Netherlands** about the inclusion of an Amendment to the Criminal Code and the Code of Criminal Procedure aimed at improving and strengthening the investigation and prosecution of cyber-crime, as well as in relation to the power of public authorities to use lawful hacking measures<sup>12</sup>. The Government has put forward a proposal according to which Anti-Terrorism Agencies will have more powers to intercept Internet and telephone traffic. The proposal is currently under discussion<sup>13</sup>.

There are allegations about intelligence authorities in **Sweden** intercepting and routinely monitoring Norwegian phones and internet cables that pass through Sweden as well as mobile phone data and calls for which the signal is transmitted through Swedish GSM links<sup>14</sup>.

In the **UK**, the Tempora programme has been used by the British Government Communications Headquarters (GCHQ) to buffer online communications, which are extracted from fibre-optic cables and that can be processed and searched at a later time<sup>15</sup>. The 2015 Investigatory Powers Bill gives investigatory powers to law-enforcement and intelligence agencies. It allows for the targeted interception of communications, bulk collection of communications data and targeted equipment interference. It also allows the storage of internet users' data by communication service providers and gives the police the power to remove encryptions applied by communication service providers. The Bill is currently under the scrutiny of the CJEU for infringement of fundamental rights<sup>16</sup>.

In light of the risks involved with lawful hacking practices, debates have recently taken place at the EU and international level about how to enable law-enforcement to lawfully hack while securing the respect of fundamental rights and the security of the Internet<sup>17</sup>. Some of the issues under question are whether or not law-enforcement authorities

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<sup>11</sup> Leaked documents show German police attempting to hack Skype, <<https://www.wired.com/2008/01/leaked-document/>> (5 January 2017).

<sup>12</sup> Wijziging van het Wetboek van Strafrecht en het Wetboek van Strafvordering in verband met de verbetering en versterking van de opsporing en vervolging van computercriminaliteit (computercriminaliteit III), <<http://zoek.officielebekendmakingen.nl/dossier/34372/kst-34372-3?resultIndex=6&sorttype=1&sortorder=4>> (5 January 2017).

<sup>13</sup> Modernisering Wet op de inlichtingen- en veiligheidsdiensten: goede balans tussen veiligheid en privacy, <<https://www.rijksoverheid.nl/actueel/nieuws/2016/04/15/modernisering-wet-op-de-inlichtingen-en-veiligheidsdiensten-goede-balans-tussen-veiligheid-en-privacy>> (5 January 2017).

<sup>14</sup> Sweden's new wiretapping law 'much worse than the Stasi', <<http://www.thelocal.se/20080610/12334>> (5 January 2017)

<sup>15</sup> GCHQ taps fibre-optic cables for secret access to world's communications, <<https://www.theguardian.com/uk/2013/jun/21/gchq-cables-secret-world-communications-nsa>> (5 January 2017).

<sup>16</sup> Draft Bills 2015-26, <<http://www.parliament.uk/business/bills-and-legislation/draft-bills/previous-sessions/draft-bills-2015-16/>> (5 January 2017).

<sup>17</sup> AccessNow, 'A human rights response to government hacking', (September 2016), <<https://www.accessnow.org/cms/assets/uploads/2016/09/GovernmentHackingDoc.pdf>> (5 January 2017).

should communicate the vulnerabilities exploited to service providers/vendors, whether these vulnerabilities should be re-used in other operations, and how to prevent their illicit trading. Various proposals have been put forward in order to mitigate the negative impacts of hacking operations. Among them is the possibility to limit lawful hacking to specific cases and with a range of guarantees (e.g. the need to obtain a judicial order) something which has been discussed. The fixing of vulnerabilities, and the prevention of their leaking, are also regarded as being possible solutions.

It is, thus, important that international actors and EU institutions strike a balance between the advantages of lawful hacking and the safeguarding of fundamental rights as well as Internet security. Gaining an overview of practices across countries in this area is also essential in order to identify best practices that can be shared.