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Addressing the EU's East-West Brain Drain: Why a Tax Solution Would Be in Vain

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Abstract: In the 1970s Jagdish Bhagwati proposed the introduction of a brain drain tax to compensate less developed countries for the welfare losses they suffered as a result of outward skilled migration, but the proposal was never implemented. In light of tensions in Europe caused by the mobility of highly-skilled labour from 'East' to 'West' following the 2004 EU enlargement, this paper re-examines the feasibility of such a proposal within the Union. The disparity between levels of income and economic development in (some of) the 'new' and 'old' member states, combined with the specific European institutional environment to trigger a brain drain from the accession countries to the EU-15. Mindful of the values and specificities of the EU, I address the question of whether Bhagwati's brain drain tax could provide a solution to this problem in the European context. Combining empirical research with EU integration theory, I argue that it cannot: implementation would face obstacles even in the limited context of the EU because of the lack of appropriate supranational competences; moreover, the tax – as a compensation mechanism - could not reduce the major differences in development levels, which is the underlying cause of the problem. Nonetheless, addressing this question illuminates broader issues of the politics of enlargement and the inequities of the current EU, in spite of the benefits it has brought to its 2004 and 2007 entrants.

Keywords: brain drain, brain drain tax, European Union, integration theory, mobility, migration, Central and Eastern Europe

FREE MOVEMENT AND BRAIN DRAIN IN EUROPE

The free movement of labour is widely touted – including by the EU itself – as one of the fundamental achievements of European integration (European Parliament, 2018). However, like other well-meaning policies, the undeniable advantages of free movement are accompanied by significant drawbacks, which can be seen as unintended spillover effects. One way these drawbacks have materialised is in the form of a brain drain through the emigration of skilled labour from poorer to richer countries.

The problem first gained prominence in the context of the accession of Central and Eastern European (CEE) countries (the EU-8) (see Zaiceva and Zimmermann, 2008), and has remained on the agenda ever since. Following their entry into the single labour market, wages in new Member States failed to converge substantially with those of older member states,[1] which prompted a significant proportion (15.6%) of their skilled labour force to move to Western Europe. As a result, the emigration of highly skilled labour, and now also that of lower-skilled labour, arises as an acute problem in a number of CEE Member States. In addition to the inherent loss of valuable talents as these workers take their skills elsewhere, the EU-8 countries forgo benefits in the process, particularly in connection with the sunk costs of publicly funded higher education. Specifically, in such cases the society of the emigrants' source country cannot take advantage of the social as well as economic benefits of higher education.

However, although the issue came to prominence in the 21st century, it has deeper roots. While brain drain in different forms has probably been present to some extent throughout human history, as a global challenge it became a focus of attention in the second half of the 20th century, with particular regard to relations between 'less developed' and 'more developed' countries. This attention also sparked ideas concerning the ways to address the problematic aspects of the phenomenon. The concept of a brain drain tax proposed by Bhagwati (1972; 1976a) is a key milestone in that process. Also known as the Bhagwati proposal, the introduction of a global tax on 'drained brains' to compensate 'losing' (source) countries was an extreme idea but it was, nevertheless, supported by economic, social policy and moral or ethical arguments.

While the Bhagwati proposal has never been implemented, it remains a subject of discussion in academic circles to this date (see, e.g., Docquier and Rapoport, 2012; Wilson, 2008a). Yet, although scholars have inquired into numerous aspects of the proposed tax, it has never been discussed in an intra-European context, as I outline in the next section. Thus, this article seeks to fill this gap in the literature by examining the practical relevance, applicability and potential effectiveness of the concept within the confines of the European Union. Beyond academic discussion and practicability, however, this analysis speaks to current and significant debates in the EU and particularly in CEE over the costs and benefits of EU membership.

Accordingly, in the following I seek to determine whether Bhagwati's tax proposal could provide a viable solution to address the East-West brain drain within the Union. To do so, I combine economic analyses with interpretative use of European integration theory. Firstly, I demonstrate the existence of a European brain drain by describing related statistics. Then, I argue that while the brain drain tax *could* theoretically work as a compensation mechanism in the EU, it would not address or eliminate the deeper causes of the phenomenon. Besides that, and similarly to implementation at the global level, I show that introducing such a tax would also face obstacles with regard to processes of European integration and the EU institutional environment. I support this claim by using implications of two integration theories: neofunctionalism and liberal intergovernmentalism, which, respectively, emphasise the implications of unintended spillovers from integration steps and the feasibility of community-wide integration in light of the intergovernmental context.

Thus the article proceeds in three main steps. First, in outlining the key elements of the notion of 'brain drain' and the Bhagwati proposal, I also introduce the theoretical background of related debates and the conceptual framework through which I conduct the analysis that follows. I then present this analysis of the relevance and applicability of an intra-EU brain drain tax. Finally, I summarise the conclusions and discuss their implications and underpinnings.

BRAIN DRAIN, SOCIAL BENEFITS AND THE BRAIN DRAIN TAX

The term brain drain refers to the movement of human capital (usually across state borders) and particularly to the migration of highly skilled people from their 'source' countries to what become their 'destination' countries, which is seen to deprive the source countries of the social benefits of the education that these people have benefitted from. Crucially, it is these social benefits that create the basic rationale for public funding of higher education. They derive from the positive externalities that are generated by higher education participation: it provides gains not just for the participants but for the whole society (e.g. highly educated persons tend to be more innovative, usually pay more taxes, are less prone to commit crimes, etc.) (Vossensteyn, 2004).

If highly educated people were to stay at home, the social benefits of higher education would ensure a social return on the public investment made in education. Emigration of the skilled workers who were educated at public expense causes explicit fiscal losses (also through lost tax revenue) as well as the forgone social benefits for the *source* country while the *destination* country enjoys these benefits without having to pay for them. The 'opportunity costs'[2] of this sunk investment are also significant: public funds could have been spent on providing other social benefits, such as healthcare. The term *source country* refers to the country that suffers the brain drain, and *destination country* to the country to which the emigrants relocate. For the purposes of this paper, *highly skilled persons* are people with 'higher education', which is manifest in their holding of a university or college degree, and *emigration* is the act of taking up habitual residence in another country.

Brain Drain – or Brain Gain?

The assessment of brain drain in the literature is far from consistent. The classical approach to the phenomenon centres around the aforementioned welfare losses of the source country at the macro level. Although with certain variations in focus, the first major generation of brain drain researchers focused on these negative consequences of highly skilled emigration (Berry and Soligo, 1969; Bhagwati, 1976a; 1976b; 1979; Bhagwati and Dellalfar, 1973; Bhagwati and Hamada, 1974; Grubel and Scott, 1966a, 1966b; Johnson, 1979). In contrast to these authors, others such as Beine, Docquier and Rapoport (2001), Mountford (1997), Stark, Helmenstein, and Prskawetz (1997), and Vidal (1998) pointed out the positive aspects of the phenomenon. They introduced the concept of *brain gain* with reference to the gains of destination countries. These gains may meaningfully exceed the losses of source countries in cases where migrants have limited opportunities to realise their potential in the source country, with their emigration thus merely amounting to the loss of 'unutilised capacities'. Additionally, these authors underlined the possibility that opportunities for prosperity abroad may increase participation in education, while remittances may drive gains in domestic income. Also taking into account the possibility of emigrants returning home having gained experience and further benefitted from additional training and socialisation, the societies of source countries may arguably gain additional valuable human capital (this phenomenon is called 'brain circulation'; see Goldin et al., 2011). Moreover, whether through labour shortage or intervention by public policy makers, emigration may also be instrumental in forcing the catching up of wages, which could decelerate further emigration and increase incentives for source country workers to gain education.

More recently, however, scepticism about the positive effects of high-skilled labour emigration has come to the fore. Schiff's (2018) models show that the source country's society is worse off because of it, and government subsidies do not necessarily foster optimal levels of education externality under a brain drain. Besides that, by using a European example, Boncea (2015) showed that turning brain drain into brain gain is not possible without well thought out and targeted government measures. Accordingly, my analysis will focus on brain *drain* – the welfare losses of source countries. In accordance with the work of Desai et al. (2009) I define such damage as a fiscal loss resulting from the source country's sunk human capital investments (Becker, 1964). Such a definition of losses may seem unduly limited, but it does allow for an initial focus on objectively observable brain drain losses before returning (as I do in the conclusion) to wider political issues. In the case of publicly funded training provided to persons holding higher education degrees within the focus of my study, this will be equivalent to sunk public expenditures on their higher education. In this framework, where higher education is not funded by government, this problem does not arise.[3]

The Bhagwati Proposal

Bhagwati (1972) introduced the idea of the brain drain tax, and Bhagwati and Dellalfar (1973) and Bhagwati (1976a) subsequently developed it as a detailed concept.

Bhagwati and his co-author argued on the assumption that in any case, more developed countries were net winners of the phenomenon, while less developed countries were net losers. The conviction that preventive policies could not succeed in decelerating the process dominated the proposal as well. Consequently, rather than attempting prevention, the concept accepted the fact of the loss and sought to provide subsequent compensation to the countries that suffered it.

On those grounds, in addition to supporting the brain drain tax by moral arguments (Bhagwati, 1979) as well as economic ones (Bhagwati, 1976b), Bhagwati also discussed its optimal form. The Bhagwati proposal is summarised in the following six points:

1. ***The brain drain tax should be levied as an additional income tax on migrants' actual earnings in their host countries.*** It would be unfair to levy the tax on some expected income that is estimated at the time of emigration. The tax rate could be linear or progressive, but the amount must always be derived as a percentage of real income (Bhagwati and Dellalfar, 1973).

2. ***Destination countries must collect the tax.*** It would be an unviable requirement for home countries to collect the tax effectively and economically outside their borders in dozens of other countries, while they often have trouble collecting taxes in their own territories.[4] Although it is questionable whether it would be constitutional for destination countries to collect a tax on behalf and for the benefit of other governments, Bhagwati & Dellalfar (1973) argue that making this lawful is merely a matter of political decision. Nevertheless, even if the destination countries were to show a positive attitude in regard to the tax, the negotiation, conclusion and enforcement of dozens of bilateral agreements would incur very high transaction costs.

3. ***As opposed to collection, source countries should undertake to levy the tax.*** First, the revenues from collecting the tax would improve their public finances, and second, the same act by destination countries would be seen as discrimination against immigrant labour, and would be inconsistent with the principle of the free movement of labour (Bhagwati, 1976a).

4. ***Following emigration, migrants should be required to pay the tax over a predetermined period.*** While there would be arguments for life-long taxation, Bhagwati & Dellalfar (1973) believe this would give emigrants the wrong incentives, encouraging them to change their nationalities in order to avoid taxation. In Bhagwati's view, supposedly even migrants would find it more tolerable to remain subject to the extra burden for a specific period only.

*5. **The tax revenues collected should be remitted to less developed countries collectively.*** While the amount collected is evidently due to the source countries, the method of channelling the money back could be a subject of debate. While a utilitarian approach to taxation would imply that the tax revenues should be remitted to the very same countries from which the migrants arrived, Bhagwati (1976a) proposes an alternative mechanism. He argues that it would be more beneficial for less developed countries to be compensated collectively and thus the transfer could be used for collective development projects. This would reinforce their sense of collective belonging, and encourage them to co-operate instead of aggravating national conflicts.

*6. **UN participation could solve some of the difficulties.*** Bhagwati (1976a) also outlined an alternative solution, in which, consistently with much thinking of the time (Giannoccolo, 2006), the United Nations would occupy an important role. Namely, if source countries were willing to surrender the right to levy the tax, and destination countries were to offer the services of their tax authorities, both functions could be delegated to the UN. In this case, the international organisation would directly collect the tax revenues, which could be channelled directly into the existing UN development programmes. Every aspect of the brain drain tax would thus be handled at a global level within the framework of the UN, which could also make the tax more acceptable to the international community (Bhagwati and Dellalfar, 1973).

The Contested Viability of the Brain Drain Tax

Although Bhagwati unsurprisingly concluded his paper by stating that "the tax proposal in this format appears to be feasible" (1976a: 38), the brain drain tax has not yet been implemented in any form. Nevertheless, a constant flow of papers revisiting, assessing and aiming to improve the proposal shows its academic relevance; and indeed, there have also been recent studies voicing sharp criticism over its desirability (Clemens, 2014; Dumitru, 2012).

Over the years, the brain drain tax has been the subject of several theoretical studies. Wilson (2011) examined the effect of the tax for 'non-benevolent' governments (i.e. governments that aim to maximise political rents instead of general welfare), and Kar (2012) incorporated it in a model with information asymmetry (where employers in the destination county do not have information on the migrants' true skill level), while Docquier and Rapoport (2012) modelled the effectiveness criteria for the tax. Also on a modelling basis, Scalera (2012) argued for the desirability of the proposal on the grounds of its effect of increasing human capital and improving general welfare.

Regarding the practical feasibility of the proposal, the picture is more varied. Based on an overview of the possibilities to implement the tax in a variety of scenarios, Oldman and Pomp (1975) confirmed that only a tax levied by source countries would also stand the test in legal terms, and that the UN would be needed to provide an adequate institutional framework for the initiative. Partington (1975: 749) overviewed the legal and administrative aspects of the proposal, and expressed concerns over its implementation since close analysis raised further serious issues that had not been addressed in detail by the original proposal (i.e. "relating to definition, the number of potential taxpayers, the amount of revenue and the cost of collection"). Pomp (1989), who relied on a case study for the empirical demonstration of the difficulties in taxing citizens residing in foreign countries, voiced criticism about the proposal's feasibility as well. By contrast, examining an adaptable version of the proposal in the context of the post-millennial global development policy framework, Brauner (2010) presented its feasibility in a more favourable light. Similarly, McHale (2009) expressed more positive views on the prospects of the tax, arguing that the tax would be more feasible today, given that information barriers are currently more moderate than a few decades ago.

Responding to criticisms of its feasibility, Wilson (2008b) proposed the concept of a voluntary brain drain tax. In his view, with adequate incentives in place (such as future tax benefits granted on returning home), migrants planning for a temporary foreign residence would also be willing to pay the tax voluntarily, which could potentially mitigate the problem of enforcement.

The brain drain tax has also been examined in its broader context. The relationship of migration to various tax regimes has been addressed in a number of studies that regularly mentioned the Bhagwati proposal (Bhagwati and Wilson, 1989; Desai, Kapur and McHale, 2004; Wilson, 2009). Those studies primarily examined various aspects of the tax in the context of the relationship between less developed and more developed countries. To date, however, no research has been carried out on the application of the proposal within the European Union. Veres (2012) suggested the need for some compensation mechanism in the field of funding higher education with reference to the uneven distribution of costs and benefits among nations, and Golovics (2014; 2015) briefly suggested the relevance of the brain drain tax to the EU. Yet, no detailed or thoroughgoing analysis has been produced on the subject. This article undertakes to fill that gap.

A BRAIN DRAIN TAX IN THE EU?

Before answering the question whether the brain drain tax could provide a viable solution to address the brain drain within the European Union, it is necessary to describe - indeed establish – that such a phenomenon exists. First, based on primary data and secondary research, I show that brain drain exists within the EU and should be considered as a real problem that faces several EU Member States (EUMS) and thus needs to be addressed. I then examine whether the introduction of a brain drain tax in the EU would be useful in addressing this problem. This is followed by a discussion of feasibility, wherein an overview of implementation options is provided through an analysis of the EU's institutional setup and processes, with reference to two theories of European integration: Neofunctionalism and Liberal Intergovernmentalism.

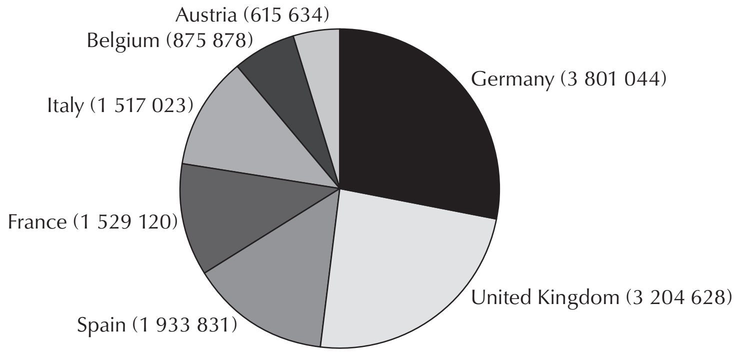
Intra-EU Migration

Does brain drain exist within the European Union? I argue that is does; however, due to the complex nature of the phenomenon and related conceptual problems, as well as measurement difficulties associated with migration, providing a comprehensive picture is not an easy task (for more details, see Bauer and Zimmermann, 1995; Castro-Martín and Cortina, 2015; Zaiceva and Zimmermann, 2008). In particular, the statistical databases available tend to provide data only on specific migrant groups (e.g. those who applied for social insurance), whereby they systematically involve selection bias. Another problem is presented by the absence of micro data that results in the lack of information about migrants' individual characteristics, such as level of education. In that regard, while destination countries' mirror statistics on immigrants could provide some assistance, difficulties arise because the data cannot be compared and aggregated internationally (due to different definitions and data collection methods).

Despite that, certain tendencies may be inferred from the data that *is* available. A striking fact indicated by Eurostat (2018a; 2018b) is that in 2016 over 16 million European citizens lived in Member States other than those of their citizenship, and over 19 million in countries other than those of their birth; and indeed the figures showed a steady increase each year. That in itself illustrates the sizable population concerned – nearly 4% of the total EU population. Moreover, these data only cover usually resident persons who had settled for the longer term (i.e. at least one year) in their destination country. However, the statistics fail to capture the large numbers of people who left their source countries for shorter or uncertain periods, and are likely to have retained their source-country addresses, while also being absent from the systems of their destination countries. Consequently, the actual figures of migration processes within the EU may be far greater than those indicated above.

The available data also show that the process is unevenly distributed among old and new Member States of the Union. In 2016, of EU citizens living in Member States other than those of their citizenship or birth, 96% (17.9 million) and 93% (15.4 million), respectively, resided in States that were members before 2004 (the EU-15) (Eurostat, 2018a, b). Although that population naturally includes people whose source countries are also EU-15 states, the phenomenon can still not be considered symmetrical as is shown below. An overview of the destination countries with the largest intra-EU migrant populations is provided in Figure 1.

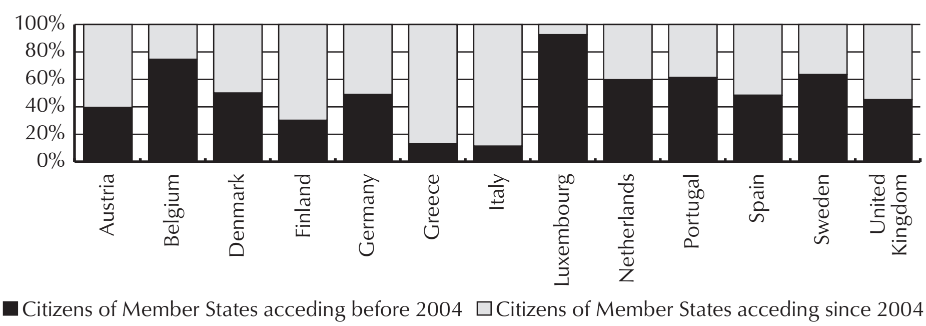
Figure 1: Residents with the citizenship of another EU Member State in destination countries with the largest intra-EU migrant populations in 2016



Source: Eurostat, 2018a.

OECD (2018) data also confirm the asymmetric character of intra-EU migration. In 2015, among the OECD members of the EU, over 14 million people lived in countries other than those of their citizenship.[5] Of that population, 13.6 million lived in EU-15 states. 53.4% (7.3 million people) arrived from the EU-10 Member States. (The distribution of foreign EU citizens by country is illustrated in Figure 2.) The volume of movements in the opposite direction is of a lower magnitude; in contrast with the 7.3 million moving from the newer to the older Member States, only 129,000 individuals had relocated from old Member States to new ones. This asymmetry appears considerable even if we take into account the fact that the OECD database tends to be incomplete in respect of Member States which acceded to the EU since 2004.

Figure 2. Distribution of other EU Member States' citizens residing in EU-15 States in 2015 (percentages)



Source: OECD, 2018.

The conclusions that may be drawn from Figures 1 and 2 are also confirmed by the analyses in Castro-Martín and Cortina (2015), Kahanec (2013), and Nedeljkovic (2014). On balance, a significant volume of migration is observed between Member States of the European Union, and in terms of its direction, a clear picture emerges, with source countries being primarily new Member States, and destination countries old Member States.[6] Additionally, other specific tendencies are also apparent. First, it is worth noting that not all EU-15 states immediately or completely opened up their labour markets to new Member States' citizens, with the only exceptions being the United Kingdom, Ireland and Sweden, which allowed unfettered access. Consequently, in the first years after 2004, legal labour migration was primarily directed to these countries, with larger numbers of emigrants setting off to the rest of the EU-15 when the moratoriums expired (generally in 2011). These developments were slightly decelerated by the impact on EU-15 economies and labour markets of the 2008–2009 crisis; however, the recovery gave new impetus to migration, and the attractive force of these countries also rebounded.

Brain Drain in the EU?

Given that for the purposes of this paper brain drain is defined as the emigration of persons holding higher education degrees, it is necessary to inquire into the composition of the intra-EU emigrant population in terms of schooling levels, as well as their absolute numbers.

Highly skilled persons tend to be more mobile compared to the rest of the given society. Moreover, the intra-EU mobility rate of people holding higher education degrees increased between 2007 and 2012 (from 26 to 44%) (Andor, 2014). Although recent statistics show that the share of low skilled migrants increased in the last years as well, the European Commission (2018: 84) stresses that "movers who arrived within the past 10 years are more likely to have a tertiary education degree than nationals".

Brücker, Capuano and Marfouk (2013) report similar tendencies. As seen in Table 1, in Member States acceding in 2004 and 2007 the emigration rates of individuals holding higher education degrees were, with a few exceptions, consistently higher compared to other groups in the given society. In CEE Member States an average of 15.6% of people with higher education degrees left their countries by 2010. Moreover, in the longer term, the indicator is seen as increasing steadily throughout the 2000s as a result of EU accession. In CEE Member States, people holding higher education degrees saw their emigration rates increase from 10.6% in 2000 to 13.9% in 2005, and then to the levels stated above.

Table 1: Emigration rates for citizens aged over 25 in EU Member States acceding since 2004, by level of education (percentages)

	2000				2010			
Source country	**Total population**	**Primary**	**Secondary**	**Higher**	**Total population**	**Primary**	**Secondary**	**Higher**
Bulgaria	2,3	1,7	2,0	4,3	5,6	3,8	4,2	12,2
Cyprus	16,3	24,2	6,5	18,0	15,6	21,6	5,6	22,9
Czech Rep.	2,9	3,5	1,6	9,6	3,4	5,8	1,7	11,5
Estonia	12,4	21,8	6,1	20,5	20,8	44,3	10,7	33,4
Hungary	3,7	7,6	1,7	10,8	4,2	14,2	1,8	13,2
Latvia	4,5	4,9	1,8	15,2	6,5	18,5	2,4	18
Lithuania	3,1	4,5	1,3	8,9	6	16,4	2,8	11,3
Malta	26,4	34,0	12,9	44,1	26	35,7	11,4	49,2
Poland	4,1	4,7	2,4	10,4	5,3	5,8	3	14,5
Romania	2,5	3,2	1,4	9,2	6,5	9	3,9	20,4
Slovakia	2,9	2,9	1,8	8,6	3,6	4,1	2	11,7
Slovenia	6,9	33,7	2,7	8,8	6	34,6	2,8	9,6
Average	**7,3**	**12,2**	**3,5**	**14,0**	**9,1**	**17,8**	**4,3**	**19**
Average (excluding Cyprus and Malta)	**4,5**	**8,8**	**2,3**	**10,6**	**6,8**	**15,7**	**3,5**	**15,6**

Emigration rates compare the population of citizens residing abroad in the given year to the total population of each country (the latter including both people residing in their source countries and people with residence abroad). Source: Brücker, Capuano and Marfouk, 2013.

All this supports the claim that there is a brain drain within the European Union, and that it has primarily been suffered by 'less developed' CEE countries which acceded in and since 2004. However, according to the conceptual framework of this paper, the phenomenon derives its problematic nature not only from the loss of highly skilled talent, but also from the sunk human capital investments using public funds. Particular emphasis must be given to the fact that the establishment of a single labour market and thereby ensuring the free movement of labour is one of the fundamentals of European integration, and that brain drain is 'merely' one of its unintended consequence. Therefore, in the context of the losses incurred in the process, this study focuses on sunk public expenditures.

Assessing the Extent and Impact of Brain Drain

In the countries that have acceded since 2004 and have been suffering brain drain, governments spend significant amounts, corresponding to an average of 1% of GDP, on funding higher education, which in 2015 exceeded EUR 13 billion in the aggregate of the countries concerned (Eurostat, 2018c). This also means that in such countries, to a considerable extent, higher education is financed from the state budget: in 2014, in OECD members across the region, a major share of higher education funds, exceeding 79% on average, was provided by the state (OECD, 2017). The existence of extensive government participation in this regard is important because in the absence of such participation (i.e. if higher education was financed privately), the costs as well as the benefits of higher education would, to a greater extent, accrue to individuals and their families, and not the state and society, which is required to provide justification for suggesting the application of a brain drain tax. Bhagwati explicitly (2009) notes that education financed using private funds will not give rise to a need for the type of compensation that could be provided through a brain drain tax. All this highlights the fact that brain drain within the European Union causes significant fiscal losses to source countries through sunk human capital investments.

To make the situation more complex, labour arriving from new Member States is also less 'valued' in the labour markets of destination countries. As Drinkwater, Eade and Garapich (2009) point out, emigrants from CEE Member States were paid lower average wages in the UK, *ceteris paribus*, than emigrants from Western Europe. Moreover, for CEE migrants, the rate of return on their level of schooling (i.e. the human capital invested) was also lower in the UK labour market, which raises efficiency issues not only from the perspective of source countries, but also on a European scale. This latter observation may be related to the fact that a considerable proportion of highly skilled migrants can only find jobs that require lower skills than they possess. This may also qualify as brain drain even if the destination countries only 'drain the hands' of labour. This is because the loss defined in my conceptual framework, i.e. sunk human capital investment, is still incurred by the source countries in such cases.[7]

All in all, the existence of welfare losses to CEE states and societies is clear. Nevertheless, one might claim that new member states are compensated for these losses since these countries are net recipients of EU transfers while destination countries are net contributors. However, this argument does not hold as these EU transfers cannot be regarded as a direct compensation for the brain drain. They rather reflect other acknowledged inconveniences and disadvantages of EU-membership – as well as themselves being one of the benefits of being part of the EU. Besides that, EU transfers aim to enhance convergence (in economic and living standards) between EUMS, which is in the best interest of the European Union as a whole (including net contributor countries).

Finally, the claim for a Bhagwati-type compensation for the brain drain suffered is not based on equity considerations but on a strict cost-benefit logic (i.e. that the costs of higher education ought to be shared among the beneficiaries of the social gains). Another claim that can be raised against the argument for a compensation mechanism is the existence of remittances. Although remittances are able to help those family members who stay in the source country, this does not fit into the aforementioned cost-benefit logics (i.e. the sunk costs of the whole society that funded the higher education are not compensated). Aside from economic multiplier effects in local communities, remittances only confirm the privatisation of the benefits (to individuals and their families) of publicly funded education. Thus, neither existing transfers nor remittances compensate the specific fiscal losses from sunk human capital investment, or the opportunity cost of them for the source-countries' societies.

A BRAIN DRAIN TAX AS A POTENTIAL SOLUTION

Having shown the existence of an intra-EU brain drain, I now ask whether Bhagwati's tax would be a suitable solution. The following is an overview of the pros and cons of that question. For that purpose – and by analogy to Bhagwati's proposed role for the UN – I assume a centrally managed EU-level brain drain tax that is mandatory for all Member States, and I formulate assertions with reference to that assumption.

Desirability of a Brain Drain Tax

Bhagwati set a modest objective for his proposal, designating its function as a compensation to countries that incur losses from the brain drain. Although theoretically an EU-wide brain drain tax could serve the same compensatory aim based on utilitarian cost sharing logics (contrary to other equity-driven transfers) serious criticism can, nonetheless, be formulated against its practical effectiveness.

Firstly, an EU-wide brain drain tax would practically represent a form of a new income transfer from the 'wealthy' EU-15 to the 'poor' CEE states. However, the effectiveness of the existing transfers is frequently the subject of criticism (see, e.g., Medve-Bálint, 2017). Thus it does not support the idea to introduce a new transfer mechanism.

Secondly, as I argued elsewhere (Golovics, 2014), applying Bhagwati's concept could contribute to curbing migration, given that the imposition of an additional tax on incomes earned in the destination country would make emigration more costly and thus alter the cost-benefit calculations of individual migrants. If calibrated properly, this could deter individuals from emigrating. While such a procedure would indeed mitigate the source countries' losses, it is contrary to both the principles laid down by Bhagwati and the fundamental values of the European Union. Reducing mobility in such a way does not seem politically viable given both the history and present aims of European integration.

The effect of reduced mobility could be eliminated by levying the tax on destination country budgets rather than directly on emigrants' incomes. Such a move could be supported by economic and equity arguments given that the society of the destination country enjoys the social benefits of a migrant's educatedness free of charge. At the same time, such an arrangement would be politically contentious in destination countries, potentially exacerbating existing and severe tensions over inward migration (I discuss the implications of this aspect in the next section). Moreover, if, in the spirit of the Bhagwati proposal, the rate of the transfer were to be determined on the basis of emigrants' real incomes rather than as some kind of overhead, this would also involve substantial administrative burdens.

Last but not least, the main counterargument against a brain drain tax is that it would only provide a symptomatic treatment of the problem without eliminating its root causes. Namely, the causes of brain drain are more deeply rooted: in addition to the EU's particular institutional setup, i.e. granting the right of free movement, the considerable level of migration is primarily encouraged by significant income and labour-market differences that result from the variation in the levels of development across Member States (for an overview of the driving forces of migration, see Massey et al., 1993). A typical example is the up to eightfold differences (measured in EUR) in annual net earnings between old and new Member States, amounting to two-to-threefold differences even when calculated on the basis of purchasing power parity, which accounts for different costs of living in different EUMS (Eurostat, 2018d). As long as such inequalities continue to exist, emigration will remain a rational decision for many citizens of countries with lower income levels.

Feasibility of a Brain Drain Tax

In its original form, the Bhagwati proposal failed on a global scale due to the very fact of its infeasibility – namely, the lack of willingness to cooperate on the part of more developed countries, which are the beneficiaries of the phenomenon. The introduction of the tax could only have been enforced by a supranational organisation, but the UN lacks any such powers or competences and is also prohibited under its Charter from intervening in matters falling within Member State jurisdiction (UN, 1945).

In that regard, the EU may appear to provide a more promising institutional context. However, while some of its bodies do have supranational competences, the EU as a whole is not a supranational organisation either. Moreover, supranational competences mostly fall within the scope of policies concerning the single market, while matters concerning fiscal policy remain within Member State competence, or within the scope of intergovernmental decision making (Fabrini, 2013). This means that without the consent of Member States, no particular body of the EU would in itself be authorised to introduce a brain drain tax even if brain drain emerges as a result of the free movement of labour, which is granted with a view to establishing a single market. That is so because the tax would inevitably fall within the scope of fiscal policy.

Consequently, in the absence of adequate supranational competences, the introduction of such a tax would only be possible as a new step of integration through amendments to the Treaty. In the following I provide an overview of the feasibility of the implementation of the tax based on the propositions of two prominent schools of integration theory, neofunctionalism and liberal intergovernmentalism. Although I do not intend to analyse the broader integrational, societal and developmental implications of introducing the brain drain tax, the deductive inferences derived from these integration theories are indispensable for determining the feasibility of the proposal.

Neofunctionalists (Haas, 1961, 2004; Lindberg, 1963) regard integration as a gradual development process that is controlled by elites recognising the constraints of national arrangements. As part of that process, supranational institutions occupy an important role. Following their establishment, they break away from their creators and 'live a life of their own'. According to neofunctionalism, integration needs to progress through incremental decisions. In that process, interdependencies among countries and sectors facilitate cooperation among stakeholders, generating additional functional spillover effects. In particular, neofunctionalists argue that neither the various sectors of the economy nor nation states themselves are independent of one another, as a result of which integration achieved in one policy domain will inevitably call for cooperation in related sectors as well (Niemann and Schmitter, 2009).

It can thus be seen that the necessity to introduce a compensation mechanism such as the brain drain tax clearly follows from the neofunctionalist logics. Namely, brain drain within the EU is a direct consequence of creating the single labour market: it is precisely the institutional framework provided by the EU, i.e. the right of free movement to and residence in other EU states, that enables so many people to leave their countries and work elsewhere. According to the neofunctionalist approach, as it happened in other policy areas after the (unintended) consequences of integration were recognised, this should be followed by further integration steps.[8] In this respect, a brain drain tax could be considered as an appropriate means of compensation. However, in light of the findings of my analysis concerning losses, a more obvious spillover effect would be to communitise higher education budgets. To the extent that source countries incur fiscal losses through sunk human capital investments, the response could be to delegate the funding of higher education to the EU level. Although it may appear as an even more distant concept, the establishment of a complete fiscal union might also be a solution. Thus while a brain drain tax could be one neofunctionalist solution to the problem, it may not be the most likely, but nor is it the least.

While all this might be implied by normative neofunctionalist theory, feasibility concerns may nonetheless arise. As indicated earlier, for the time being, the European Union lacks an institution that is self-propelled in the neofunctionalist sense and could successfully follow through the implementation of the concept even in the face of Member States' resistance. Indeed, as long as national elites – which the approach considers to be the drivers of integration – view intra-European mobility much more as an opportunity, they are not very likely to propose such an initiative.

Liberal intergovernmentalism makes the European prospects of a brain drain tax appear even more daunting. This theory, associated most prominently with Andrew Moravcsik (1993, 1995), does not consider the EU to be an autonomous participant in international politics, arguing that nation states remain the actors, and are given a specific framework by integration for the coordination of their policies. In that process, each state acts in its own interest, only consenting to the establishment of international arrangements from which it can derive a benefit. On those grounds, under the theory of liberal intergovernmentalism each step of integration is subdivided into three phases: first, in the light of their internal conditions, states define their preferences; next, in intergovernmental forums they seek to assert their interests in negotiations dominated by relative bargaining powers. Finally, the process is concluded by the implementation of the negotiated outcome (Moravcsik and Schimmelfennig, 2009).

To the extent that the integration process is seen along liberal intergovernmentalist lines, the feasibility of a brain drain tax in Europe is highly questionable. Given that joint decisions reflect Member States' bargaining powers, it may be assumed that the most prominent states within the European Union, which are mostly beneficiaries of the brain drain, would not support such a concept against their own interests.

Notwithstanding the pessimistic vision offered by these theories, however, the empirical fact remains that a number of measures have been adopted throughout the history of European integration which were clearly unfavourable for 'strong' states. As an example, as Schimmelfennig (2001) claims, this already happened even before the enlargement when the 'border states' forced their interest over that of other EU-15 countries. Another option for 'weaker' states lies in the European Union's established practice of 'logrolling' and package deals (Kardasheva, 2013). As it happened several times, in exchange for compensation offered in another area, Member States will also accept proposals that are less favourable from their perspective. Additionally, if the Union aims to shift towards federalism in the future, such an expression of European solidarity and sense of belonging may also be an important prompt for supporting a brain drain tax.

DON'T TAX, COMMUNITISE: ADDRESSING THE INTRA-EU BRAIN DRAIN

My analysis shows that brain drain is indeed a problem within the EU, causing major fiscal losses to less developed Member States, particularly those in Central and Eastern Europe, but it also shows that a brain drain tax cannot provide a viable solution to this problem. I showed above that such a tax would not be desirable, as it would not address the root causes of the problem – it would only provide belated compensation for source countries' losses, which would be insufficient to either eliminate or meaningfully mitigate the considerable differences between Member States in terms of the disparities in wages and living standards which drive intra-EU labour migration.

Nor would it be feasible. So long as support from Member States benefitting from the brain drain cannot be circumvented for the purpose of introducing the tax, and the sense of solidarity among nations is not taken to a higher level, there is no real possibility to introduce such a tax. Although neofunctionalist approaches would see the need for such a compensation mechanism, the liberal intergovernmentalist approach and the very nature of political self-interest-seeking suggest a pessimistic view on the feasibility of the proposal.

That said, brain drain within the Union is undeniably an existing challenge that needs an institutionalised resolution mechanism at European level. Although Bhagwati's tax does not appear to be the most ideal means, the problem should be remedied sooner or later, or the EU and its member states could face other unintended consequences.

The *first best* solution would be for less developed Member States to 'catch up', economically speaking; however, while this is to be encouraged (and many EU programmes ostensibly seek this goal), it is not seen as a realistic objective in the short or medium term. Mindful of the fact that the problem remains acute in the short term, and that ignoring it would only cause the brain drain to intensify, consideration should be given to other ways of addressing the phenomenon.

Communitisation of the funding of Member States' (higher) education systems would be one possibility. This may be justified by the features of the integrated single labour market. Member States enjoy the benefits of skills collectively and a country's exclusion from that enjoyment is not possible even if it has not contributed to funding the creation of the human capital concerned. However, an inequitable distribution of costs and benefits may indeed give Member States incentives for freeriding, with the possible consequence of higher education becoming sub-optimally funded on a European scale (Golovics, 2015a). Moreover, this would likely worsen the problem of the development gap within the EU, generating more serious tensions among Member States.

Furthermore, communitisation of (higher) education funding would also be consistent with the objective of the EU to become the most competitive knowledge-based economy in the world. Parallel to the fact that neofunctionalist theory directly implies the necessity of some spillover effects, practical examples would also support this approach. The fact that there have been integration steps in the field of higher education (i.e. the European Higher Education Area, the European Research Area) may strengthen the claim about the necessity of further coordination between national higher education systems in the EU as well. The existence of such cooperation shows that European countries do not regard higher education as an exclusively national issue and thus there is a potential platform for further communitisation.

Delegation of education funding to the EU-level might appear rather ambitious today. For that reason, a possible alternative to the communitisation of the entire educational budget would be the implementation of a compensation mechanism which, contrary to the Bhagwati proposal, would not place a direct burden on the incomes of migrant workers. Such an assigned transfer, which the governments of source countries could only reinvest in education, would also be consistent with the spirit of the European Union in that it would not decelerate mobility among Member States, but it would recognise the expenditures of source countries on higher education, with the capability of representing European solidarity. While this may demand further changes in the current institutional setup of the EU, such bold thinking is needed to address the EU's East-West brain drain and associated perceptions of injustice in and through European integration.

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ENDNOTES

[1] Although there was a process of convergence during the pre-crisis period and in the recent years as well (Vacas-Soriano et al., 2019), huge disparities still exist between old and new member states.

[2] The term 'opportunity cost' or 'alternative cost' refers to the missed benefits from an alternative use of the given resource (i.e. the opportunity cost of choosing *option A* over *option B* is to miss the benefits from *option B*).

[3] These people clearly also benefit from other public investments (e.g. into primary and secondary education, healthcare, etc.) but that is beyond the scope of this paper. It would, however, be taken into ac-

count in more comprehensive studies. The focus here is to determine at the basic level whether there would be a case for a brain drain tax in the EU on these limited terms.

[4] Nevertheless, the United States, which has a citizenship-based taxation system, may be a counterexample for that.

[5] Apart from possible differences in data collection methods and variations in reference years, the OECD data's inconsistencies with Eurostat data may also be due to the absence of certain countries' data in the OECD database. The database does not include the recent years' data for France and Poland; Ireland only reports the number of individuals arriving from the United Kingdom; and Bulgaria, Croatia, Cyprus, Lithuania, Malta and Romania are not OECD members.

[6] In addition to significantly smaller flows in the opposite direction, there is also immigration to new Member States (e.g. to Hungary from Ukraine, Romania or even the Middle East), accompanied by emigration from old Member States to other destinations, such as the United States. Such flows are generally more moderate in volume, and since in most cases the counterparties are not EU Member States, their analysis falls outside the scope of this study.

[7] Table 1 shows and the European Commission (2018) confirms that EU accession increased low-skilled workers' motivation for emigration. Although their migration is not considered as brain drain for the purposes of this paper, fiscal losses and forgone benefits are also incurred from their emigration. The amount of such losses is undoubtedly lower than in the case of individuals whose higher education is funded publicly. However, striking the balance of the advantages and drawbacks of lower-skilled emigration would require a separate study owing to the complexity of the phenomenon.

[8] The establishment of the single labor market and, in a broader sense, the institutional setup of the EU have a number of other consequences, in relation to which the distribution of benefits and drawbacks among Member States could be the same as that discussed here in some cases, and the opposite in others. Providing a detailed analysis and striking the balance of such consequences would go beyond the scope of this study due to the multidimensional nature of the issue. For that reason, only brain drain and its direct consequences are addressed here.

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