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# International migration and the transfer system: A method to limit brain drain and excessive use of the welfare state

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## Abstract

International migration can lead to a lack of human capital in the country of origin (brain drain) and, on the other hand, to excessive demands being placed on the welfare state in the destination country. The transfer system that was used for professional footballers moving from one club to another until the Bosman judgement can also be an efficient solution for migration. According-ly, depending on the amount of contributions an individual makes to the budget of the state of origin and the budget of the state of destination, the state of origin or the state of destination must pay a compensation to the other state. In this way, there is an appropriate compensation for the brain drain in the country of origin and for the burden of the welfare state in the destina-tion country. Our article adds an innovative and efficient proposal to the existing approaches to migration.

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# 1. Introduction

Nations offer many different benefits and services, such as infrastructure, social welfare or public services. In turn, nations tax the people. In this context, international migration may lead to a an outflow of human capital in the country of origin (*Brain Drain)* and a burden on the social systems in the destination country (*Welfare Migration*-problem).

In the light of this matter, the pre-Bosman transfer system may serve as a tool to solve both problems. This existed in professional soccer until the Bosman judgement in 1995 and stated, that clubs which transferred a player, even after the ending of his contracts, received compensation (Szymanski 2003). In this article, we show that adapting the transfer system provides a solution for the problem of *Brain Drain* and the welfare migration.

After a short overview of important migration theories and of the economic policy tools of migration regulation, we shortly explain the pre-Bosman transfer system. After that, we present our theoretical model and discuss its implications. Afterwards, we end with concluding remarks.

# 2. Selected Migration Theories

The *Neoclassical Theories*, based on cost-benefit models (Sjastaad 1962) and push-pull models of migration (Lee 1966) suggest that individuals migrate in order to maximize their income opportunities. Individuals tend to emigrate if the expected returns to migration are higher than the migration costs.

The *New Economics of Migration* suggests that families are the key-driving determinant in the decision to migration. Due to the migration of one household member, the whole family income may be diversified, so the risk of loss of income is reduced (Czaika and Reinprecht 2022; Massey et al. 1993).

The *Network Theory* sees migration as a result of the complex relationship among individuals, families, friends, migrant organizations and other economic factors (Czaika and Reinprecht 2022; Beine 2016). These social networks do not only play a crucial role whether migration takes place, but also the choice of the destination. Those provide access to relevant information, financial assistance or administrative support (Giovanetti et al. 2024; Klöcker and Daumann 2023; McKenzie and Rapoport 2010). In addition, migration may take place as a herd effect (Epstein 2008, 2002). Herd migration describes the phenomenon that migrants follow the flow of other migrants rather than aim to reach a potential diaspora (network) in any region.

The *Welfare Magnet Hypothesis*, claims that immigrants are likely to move to those regions with generous welfare benefits (Ferwerda et al. 2023; Agersnap et al. 2020; Allard and Danziger 2000). In cases of welfare migration, societies are faced with additional financial burdens, especially if the immigrants are in younger ages and persisting in unemployment. Especially developing nations suffer under the *Brain Drain*-phenomenon, which describes the export of high-skilled human capital to developed countries. This one is a notably challenge for these nations, since the training costs for the high-skilled individuals are high in relation to the national budget and a relatively small sub-population is high-skilled. Furthermore, due to the outward flow of these high-skilled individuals, the national economy is lacking on knowledge (e.g., Bhardwaj and Sharma 2023).

# 3. Migration Economic Policy

What can be done to regulate migration? According to Widgren and Martin (2002), there a two key economic policy tools to regulate migration. Migration can be reduced if both the immigration and emigration countries cooperate in terms of free trade and FDI. The origin (mostly poorer) destination should benefit from free trade agreements with the (mostly wealthier) destination, which additionally accelerate FDIs in the origin. Instead of emigrating, individuals

may stay when foreign investment creates factories and other job-creating workplaces. Another opportunity is providing aid. Hereby, it is important that official development assistance affects the causes of emigration, which often are poverty and environmental deficiency (Widgren and Martin 2002).

# 4. The pre-Bosman transfer system

The original transfer systems restricted the free movement of players. The receiving club had to pay out the former club, the transfer fee, which was negotiated between both parties, even if the player's contract ended. If no agreement could be reached, an arbitral court was called on (Feess and Muehlheusser 2003). Overall, a transfer only took place between the new club i and the former club j if

(i) the player's future marginal product $MP_i > MP_j$. This condition ensured that i was able to satisfy the transfer claims of j.

(ii) club i had to offer a wage $w_i \geq w_j$.

A transfer of the player was only possible if both conditions held.

Although such regulations obviously interfere with the free movement of the factor labor, the players were allocated to those clubs in which the players had a higher marginal product. These results are plausible in context of the Coase theorem, since clubs have the incentive to sale players to those clubs, in which they have a larger marginal product. Instead, the transfer system did not bias the efficient allocation of the players within professional leagues (Invariance thesis). Our goal is to use these insights to solve the problem of welfare migration.

# 5. A Simple Model

In order to convey the pre-Bosman system to the international migration, we have to set some presumptions. Individual q makes use of any benefit-tax-bundle of the origin country, denoted $O$. The emigration of the q-th individual leads to a demand on the benefit-tax-bundle in the destination country, denoted $D$. The idea is, that such migration, despite of its type (either labor migration or welfare migration), is linked with a compensation fee to $O$ or $D$ (Daumann 2000). The direction of the fee depends on expected contribution of $q$ to either $O$ or $D$. Let us give you an example:

The present value of all received public benefits of individual $q$ in $O$, which $q$ obtains with respect to his or hers physical constitution and skills, is $L_q^O$. On the other hand, there is the present value of the expected tax payments of $q$, $B_q^O$. Let $Z_q^O = B_q^O - L_q^O$.

If $L_q^O < B_q^O, Z_q^O > 0,$ resp., then individual $q$ is a net contributor to the public budget of $O$. Contrary, if $L_q^O > B_q^O, Z_q^O < 0,$ resp., $q$ is a net receiver of public benefits. The same applies for individual $q$ to country $D$: The present value of all received public benefits of individual $q$ in $D$ would be $L_q^D$, and $q$'s present value of the expected tax payments would be $B_q^D$. Due to different benefit-tax-bundles with respect to different productivities in $O$ and $D$, $L_q^O$ and $L_q^D$, and $B_q^O$ and $B_q^D$ can differ.

Applying the transfer system to migration means that the migration of $q$ from state $O$ to state $D$ requires a financial compensation $T$, which either $O$ or $D$ has to pay.

If $q$ seeks to emigrate from $O$ to $D$, we must distinguish five cases:

1. $q$ is a net contributor in $O$ as well as in $D$ ($Z_q^O > 0$ and $Z_q^D > 0$), and $Z_q^O < Z_q^D$. In this case, $O$ asks for a compensation at least of $Z_q^O$ and $D$ offers a compensation at a maximum of $Z_q^D$. For $Z_q^O < Z_q^D$, $O$ and $D$ will negotiate the amount of the compensation $T(D,O)$ where $T(D,O) \leq Z_q^D$ and $TF(D,O) \geq Z_q^O$. This means that $D$ must pay a financial compensation to state $O$ so that $q$ can immigrate to $D$.

2. $q$ is a net contributor in $O$ ($Z_q^O > 0$), and $Z_q^O > Z_q^D$. This means that $q$ could be a net contributor in $D$ ($Z_q^D > 0$) or a net receiver ($Z_q^D < 0$). Here, $O$ asks for a compensation at least of $Z_q^O$ and $D$ offers a compensation at a maximum of $Z_q^D$, if $Z_q^D > 0$, or even asks for a compensation of at least $|Z_q^D|$, if $Z_q^D < 0$. For $Z_q^O > Z_q^D$, migration of $q$ from $O$ to $D$ will not occur.
3. $q$ is a net receiver in $O$ as well as in $D$ ($Z_q^O < 0$ and $Z_q^D < 0$), and $Z_q^O > Z_q^D$. In this case, $O$ offers a compensation at a maximum of $|Z_q^O|$, and $D$ ask for a compensation at least of $|Z_q^D|$. For $|Z_q^O| < |Z_q^D|$, migration of $q$ from $O$ to $D$ will not occur.
4. $q$ is a net receiver in $O$ as well as in $D$ ($Z_q^O < 0$ and $Z_q^D < 0$), and $Z_q^O < Z_q^D$. In this case $O$ offers a compensation at maximum of $|Z_q^O|$ and $D$ asks for a compensation of at least $|Z_q^D|$. For $|Z_q^O| > |Z_q^D|$, $O$ and $D$ will negotiate the amount of the compensation $T(O,D)$ where $T(O,D) \geq |Z_q^D|$ and $TF(O,D) \leq |Z_q^O|$ This means that $O$ must pay a financial compensation to state $D$ so that $q$ can immigrate to $D$.
5. $q$ is a net receiver in $O$ and a net contributor in $D$ ($Z_q^O < 0$ and $Z_q^D > 0$), and $Z_q^O < Z_q^D$. In this case $O$ offers a compensation at maximum of $|Z_q^O|$ and $D$ offers a compensation at a maximum of $Z_q^D$. In this case, both states are prepared to pay compensation if $q$ migrates from $O$ to $D$. The states can divide the total amount between them, and migration will take place.

Consequently, the migration of $q$ occurs if the following two conditions are met.

(i) The individual's expected utility of migration is positive. That means, the differential between the expected net benefits of $q$ and his or her migration costs have to be positive, $b_q^D > b_q^O + c_q$. $c_q$ includes both, translocation costs, social costs due to living in a new society, but also the diaspora's size in the destination, which reduces the costs by providing information (e.g., Klöcker and Daumann 2023, 2024; Beine et al. 2011).

(ii) $Z_q^D > Z_q^O$ must hold. The individual q has to raise a sum $B_q^D - L_q^D > B_q^O - L_q^O$. Only if this condition holds the destination state $D$ is willing to accept the migration, since $D$ is in a better position than if he prohibits the migration of individual $q$.

But what happens in situations where neither state $O$, nor state $D$ are willing to pay compensations? A migration may also be carried out if a third party takes up the compensation fee. For example, if the individual $q$ is a net receiver of social benefits and wants to immigrate into $D$, other individuals, social communities or churches might be willing to pay the compensation.

# 6. Discussion

Our concept would lead to circumstances where migrants could only move to those destinations where their net contribution is largest. Furthermore, this mechanism tends to increase the international competition for high-skilled labor across the nations and reduces the incentive for pulling effects of high social aid in the destinations. The more competitive market for labor could also contribute to improving institutional frameworks, e.g., social welfare or infrastructure in many countries (Siebert and Koop 1990; Sinn, S. 1992; Daumann 1995). To be competitive, some countries are supposed to enhance their administrative efficiency, perhaps by reducing public support and services. Albeit, because of the relatively high translocation costs, no race to the bottom would take place (Woolcock 1994).

A further relevant implication concerns the asylum system. The costs of net receivers (namely asylum seekers) would not be financed by the public budget anymore, but rather by the private

sector. In particular, social communities, churches or benevolent individuals, who favor the resettlement of asylum seekers, would be charged. Hereby, the problem of free-moving behavior in moralistic political topics, namely paying lip services, should be solved.
Though, our concept lacks in terms of practical installation. Calculating the contributions and receiving transfers for each migrant is costly and elaborating, since both the origin and destination country, need to calculate the expected contributions and expected transfers over a migrant's lifetime. However, this is a similar task to what private health insurance companies are faced with while calculating their premiums and they are obviously able to solve this problem adequately.

# 7. Conclusion

Our aim was to derive a mechanism which allows both nations and migrants to get together in an efficient way. We adopt the transfer system of the pre-Bosman era on the level of international migration; by means of this, migration would only take place if one of the participating countries, the origin or destination, pay an acceptable compensation. Although calculating the lifetime balance of any migrant is complicated, our approach could solve largely the *Brain Drain* occurring in the state of origin and the negative effects on the welfare system in the destination country.
The transfer system in this context requires, on the one hand, strict border controls to curb illegal immigration. On the other hand, a clearing system would have to be set up between the states to handle the settlement of transfer payments. Special arrangements would also have to be made with nationals of states that do not agree to the establishment of this migration regime. We also emphasize that such high selecting migration policies are currently existing, except the compensation fees. Take as an example Canada, which is acting very selective with a score system to let immigrate the skilled migrants. Based on our approach, the Canadian government should compensate the origin countries for their invested education expenditures on the migrated individuals. This compensation could be re-invested in the education system to shrink the negative effects of the *Brain Drain*. In the reverse case, for example the irregular migration from Northern African countries into the European Union, the EU would have a good argument to receive emigration premia by the origin countries, since many of these immigrants are expected to be net receivers.

# References

Agersnap, O., Jensen, A., and Kleven, H. (2020) "The welfare magnet hypothesis: Evidence from an immigrant welfare scheme in Denmark" *American Economic Review: Insights* **2**(4), 527-542.

Allard, S. W., and Danziger, S. (2000) "Welfare magnets: Myth or reality?" *Journal of Politics* **62**(2), 350-368.

Bhardwaj, B., and Sharma, D. (2023) "Migration of skilled professionals across the border: Brain drain or brain gain?" *European Management Journal* **41**(6), 1021-1033.

Beine, M., Docquier, F., and Özden, Ç. (2011) "Diasporas" *Journal of Development Economics* **95**(1), 30-41.

Beine, M., Bertoli, S., and Fernández-Huertas Moraga, J. (2016) "A practitioners' guide to gravity models of international migration" *The World Economy* **39**(4), 496-512.

Czaika, M., and Reinprecht, C. (2022) "Migration drivers: Why do people migrate" in *Introduction to migration studies: An interactive guide to the literatures on migration and diversity* by P. Scholten, Ed., Springer Nature: Cham, 49-82.

Daumann, F. (1995) „Faktormobilität, Systemwettbewerb und die Evolution der Rechtsordnung“ in *Europas Arbeitsmärkte im Integrationsprozeß* by P. Oberender and M. E. Streit, Eds., Nomos: Baden-Baden, 53-69.

Daumann, F. (2000) „Nationale Krankenversicherungssysteme Europas im Systemwettbewerb“ *Jahrbücher für Nationalökonomie und Statistik* **220**, 527-540.

Epstein, G. S. (2002) “Informational cascades and decision to migrate” *Available at SSRN 304442*.

Epstein, G. S. (2008) “Herd and network effects in migration decision-making” *Journal of Ethnic and Migration Studies* ***34***(4), 567-583.

Feess, E., and Muehlheusser, G. (2003) “Transfer fee regulations in European football” *European Economic Review* **47**(4), 645-668.

Ferwerda, J., Marbach, M., and Hangartner, D. (2024) “Do immigrants move to welfare? Subnational evidence from Switzerland” *American Journal of Political Science* **68**(3), 874-890.

Giovannetti, G., Santi, F., and Velucchi, M. (2024) “’Migrants know better’: migrants’ networks and FDI” *Economia Politica* **41**(1), 85-121.

Klöcker, J. A., and Daumann, F. (2023) “What drives migration to Germany? A panel data analysis” *Research in Economics* **77**(2), 251-264.

Klöcker, J.A., and Daumann, F. (2024) “For A Brighter Tomorrow– A Theoretical and Empirical Analysis of Athletes’ International Migration” Working paper, DOI: 10.13140/RG.2.2.32757.59369.

Lee, E. S. (1966) “A theory of migration” *Demography* ***3***, 47-57.

Massey, D. S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., and Taylor, J. E. (1993) “Theories of international migration: A review and appraisal” *Population and development review* **19**(3), 431-466.

McKenzie, D., and Rapoport, H. (2010) “Self-selection patterns in Mexico-US migration: the role of migration networks” *Review of Economics and Statistics* **92**(4), 811-821.

Siebert, H., and Koop, M. J. (1990) “Institutional Competition. A Concept for Europe” *Aussenwirtschaft* **45**, 439-462.

Sinn, S. (1992) “The Taming of Leviathan: Competition among Governments” *Constitutional Political Economy* **3**, 177-196.

Sjaastad, L. A. (1962) “The costs and returns of human migration” *Journal of political Economy* ***70***(5, Part 2), 80-93.

Szymanski, S. (2003) “The Economic Design of Sporting Contests” *Journal of Economic Literature* **41**(4), 1137-1187.

Widgren, J., and Martin, P. (2002) “Managing migration: the role of economic instruments” *International Migration* **40**(5), 213-229.

Woolcock, S. (1994) *The Single European Market: Centralization or Competition among National Rules?*, Royal Institute of International Affairs: London.