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Is it Time to Phase Out UNDESA's Regional Criterion of Development?

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David Ingleby*, Ann Singleton** and Kolitha Wickramage***

ABSTRACT

International migration to developing countries has attracted increasing attention because of its growing volume in absolute terms and its potential contribution to development. However, conclusions about what is happening in these countries depend crucially on the way migration and development are measured and analysed. This article shows that whether migrant stocks appear to be increasing or decreasing in developing countries depends on three factors: whether a regional or an economic criterion of "development" is used, whether volume is expressed in absolute numbers or as a percentage of total population, and whether the data include refugees and asylum seekers. The policy implications of these findings, which – due to the shortcomings of available data – can only be regarded as provisional, are then discussed. Better quality migration data and analysis informed by the limitations of the data are needed to provide a sound evidence base for current debates about migration policy.

INTRODUCTION

In 1996 the United Nations Department of Economic and Social Affairs (UNDESA) classified Japan, Australia, New Zealand and all countries in North America and Europe as "developed" and all others as "developing" (UNDESA, 1996), adopting a categorization that had been used by the United Nations Population Division (UNDP) since 1970. This list of countries was not regarded as precise and authoritative: indeed, because there are so many competing views about how development should be defined and measured, it never could have been. "Development" is a prime example of what philosophers call an "essentially contested concept" (Gallie, 1956). UNDESA's categorisation was therefore accompanied by emphatic disclaimers: "There is no established convention for the designation of "developed" and "developing" countries or areas in the United Nations system" (ibid, p. ii), and "The designations "developed" and "developing" are intended for statistical convenience and do not necessarily express a judgement about the stage reached by a particular country or area in the development process" (ibid, p. 21).

In the half century since it was first used, however, this regional classification seems to have taken root: despite the above disclaimers, it has become de facto an "established convention". The only change has been the replacement of the labels "developed/developing" by "more developed"/ "less developed". Unfortunately, as this article will show, the world has changed so much in the meantime that conclusions based on this classification can be highly misleading. Indeed, there is

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something self-contradictory about identifying a country's developmental level with its geographic location: locations are fixed, while development by its very nature involves change.

A widely used alternative is the World Bank's classification of countries in terms of Gross National Income (GNI) per capita. This criterion, too, cannot claim to be authoritative: the World Bank itself acknowledges repeatedly that "classification by income does not necessarily reflect development status". Firstly, GNI is only one of many available indicators of economic strength and may not be the most useful one for studying a given phenomenon. More fundamentally, however, the 1990 *Human Development Report* (UNDP, 1990) challenged the very idea that development could be reduced to economic growth, proposing instead a multidimensional measure, the Human Development Index (HDI). In its 2013 *World Migration Report* (IOM, 2013), the International Organization for Migration compared findings on migration and development using all three indicators, showing that they could lead to very different results.

A full discussion of the issues surrounding the definition and measurement of development is beyond the scope of this article. Its aim is confined to showing that very different conclusions about migration[1] in developing countries can result from using the World Bank's economic criterion instead of UNDESA's regional one.

While fully appreciating the limitations of a purely economic measure of "development", we suggest that the World Bank's criterion is suitable in four ways for exploring links between development and migration:

- It is practical and widely used; UNDESA itself uses it to supplement its own regional criterion.
- Although it lacks an explicit human-rights dimension, it does have an implicit one: the UN Bill of Rights (UN, 1948) established that a country unable to provide for the material needs of its inhabitants is already denying them their human rights.
- The fact that GNI does not capture *political* rights within its metric is arguably an advantage when studying migration. De Haas (2010:39) demonstrated in a multivariate regression analysis of global migration data that a lack of political freedoms in destination countries is significantly associated with *higher* immigration when other relevant factors are controlled for. If this is so, including political rights in an indicator of development would reduce, not increase, its ability to predict immigration.
- The World Bank reclassifies GNI levels each year and thus provides an up-to-date measure.

Although the UNDESA criterion might have functioned reasonably well during the previous century as a rule of thumb for distinguishing the global "haves" from the "have-nots", recent decades have seen vigorous economic growth in several regions. Much of this has taken place in countries that UNDESA classifies as "less developed" – often to such a degree as to propel the country concerned into the "high-income" category. As a result, the discrepancy between results obtained using UNDESA and World Bank criteria is increasing. The proportion of countries classified as "high-income" was 20 per cent in 1990, but reached 35 per cent in 2015.

In addition, some countries were classified in 1996 by UNDESA as "more developed" despite having GNIs below the "high-income" threshold. However, more and more of these countries are qualifying as "high-income", so that this source of discrepancies is diminishing. Most of the anomalies are now due to newly rich countries in "less developed" regions (comprising 9% of the latter countries in 1990 but 21% in 2015), which UNDESA cannot reclassify for the simple reason that they are in the wrong place.
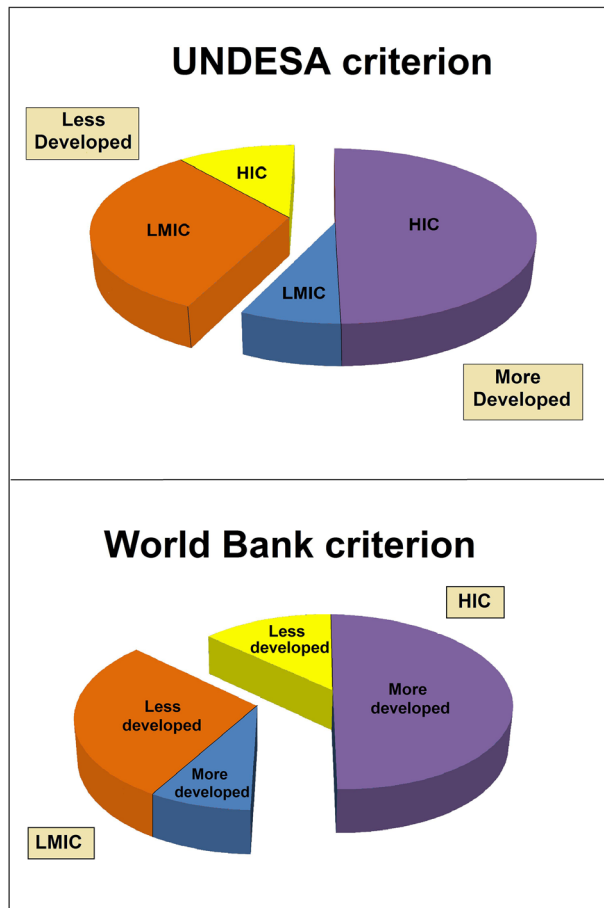
ANALYSES

The data analysed in this article come from two main sources. Data on global migrant stocks from 1990 – 2015 were taken from the UNDESA *2017 Revision* (UNDESA, 2017a), which includes data

from 232 countries. It would have been preferable to analyse flows rather than changes in stocks, but sufficiently complete datasets on flows are not currently available. Data on GNI levels and the corresponding codes were taken from the World Bank (2018), which by 2015 had classified 218 countries (i.e. all World Bank member countries and all other economies with populations of more than 30,000). The analyses undertaken here involved only applying simple arithmetic to these data.[2]

Divergence between UNDESA and World Bank classifications

United Nations Department of Economic and Social Affairs contrasts "more developed" with "less developed" regions (which we shall abbreviate henceforth as MD and LD), while the World Bank distinguishes "high" and "low- or middle" income countries (HICs and LMICs). As Figure 1 shows, this yields four possible combinations of the two criteria. Further subdivisions of these

FIGURE 1
INTERNATIONAL MIGRANT STOCK IN 2015 IN THE FOUR DIFFERENT TYPES OF COUNTRY, GROUPED ACCORDING TO UNDESA AND WORLD BANK CRITERIA

categories exist, but the analyses reported here are based only on these dichotomies. Table 1 (at the end of this article) lists the main countries in each of the four categories.

If the two classifications were very similar, the "slices" in this pie chart corresponding to concordant classifications (i.e. those coloured brown and purple) would be far larger than those representing discordant ones (yellow and blue). We can see, however, that this is not the case. Figure 1 also shows the difference between the ways in which the UNDESA and World Bank criteria divide the "pie" in two.

The size of the slices (i.e. the proportion of the world's migrants in each type of country), starting with HICs in LD regions and moving clockwise, is 15%, 49%, 8% and 28%. This means that countries with discordant classifications housed (15% + 8% =) 23% of all migrants. Of the (15% + 28% =) 43% of migrants located in LD regions, just over one-third were in HICs (including for example the "Asian Tigers" such as Singapore and the oil-rich countries of the Gulf Cooperation Council). These countries play a pivotal role: as we shall see, their inclusion in UN DESA's LD category is the main reason for the widespread belief that migrant stock in the developing world is increasing. Figure 1 also shows that in 2015, most international migrants (49% + 8%, i.e. 57%) were located in UNDESA's MD regions, although 14% of them lived in LMICs. Between 1990 and 2015 this group of countries declined from 25 to 12. The Russian Federation, home to nearly 5% of the world's migrants, is the largest country in this group: it briefly crossed the "high-income" threshold from 2012 to 2014, but due to the fall in oil and gas prices in 2014 and other factors it then returned to the LMIC category. The other 11 members of the group in 2015 were all located in the European region and belonged formerly to the USSR, the Warsaw Pact or the Soviet sphere of influence.

Clearly, the UNDESA and World Bank classifications cannot be regarded as interchangeable; they measure very different things. We will first examine the difference it makes to "slice the pie" in the two ways shown in Figure 1.

Changes in migrant stock in each type of country

Figure 2 uses the same colours as Figure 1 and adds the time dimension. It shows that between 1990 and 2015, HICs in MD regions (purple) housed continuously increasing numbers of migrants.

FIGURE 2
CHANGES IN MIGRANT STOCK IN DIFFERENT TYPES OF COUNTRY
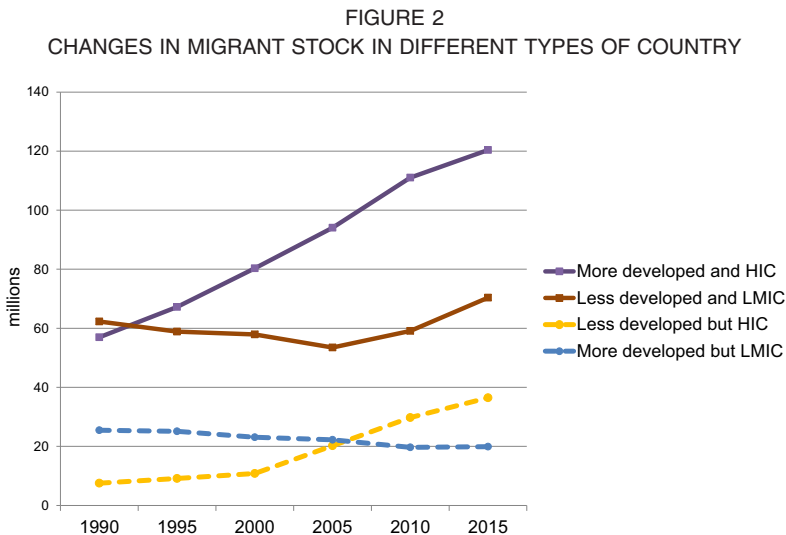
An increase is also seen within HICs in LD regions (yellow), particularly between 2000 and 2010. Within LMICs in MD regions (blue), migrant stock was low and fell slightly, while LMICs in LD regions (brown) – home in 2015 to 81% of the world's population – showed a slight decline until 2005, followed by an increase.

However, these absolute figures can be misleading, because the number of countries and thus the total population in each category changes over time. Rising migrant stock in HICs within LD regions might simply reflect the fact that the number of such countries increased from 13 to 34, while falling stock in LMICs within MD regions could be caused by their decrease from 25 to 12. Moreover, population size within each type of country changes due to natural growth or decline and inward or outward migration.

It is therefore important to take the total population of each area into account when considering the number of migrants that it houses. The fact that migrant stocks in LD regions are approaching the volume of those in MD ones takes on an entirely different significance when we bear in mind that the population of the first area is about five times greater than that of the second and increasing five times more rapidly. Alongside absolute numbers of migrant stock, therefore, we should always examine "migrant density", that is the percentage of migrants in the total population of each area. (This indicator is routinely included in UNDESA data on migrant stock.) Figure 3 shows what happens when the absolute totals represented in Figure 2 are converted to migrant density.

Using this measure, the highest figures are found in HICs within LD regions (yellow). A sudden drop is visible between 1990 and 1995: in 1990 this group comprised only 13 countries, but in 1995 it was joined by (among others) South Korea, with a very large population but comparatively few migrants. It is this that mainly accounts for the sudden fall in migrant density in that year. A slight fall is also visible after 2010, perhaps reflecting the end of the "golden decade" of rapid growth in the so-called "emerging markets" (Didier et al., 2015).

High-income countries in MD regions (purple) show a steady increase over the whole period, while migrant density in LMICs in LD regions (brown) is low and declines slightly. In LMICs within MD regions (blue), migrant density varies very little.

Figure 4 returns to the dichotomies underlying the UNDESA and World Bank classifications, that is the different ways of "slicing the pie", aggregating countries either according to income levels (HIC vs. LMIC) or regions (MD vs. LD).

FIGURE 3
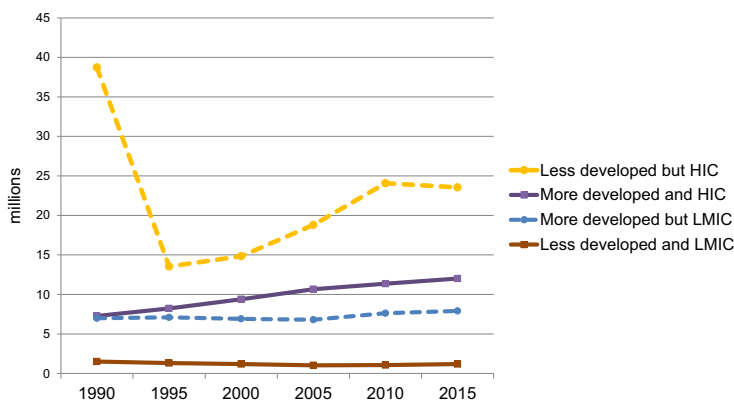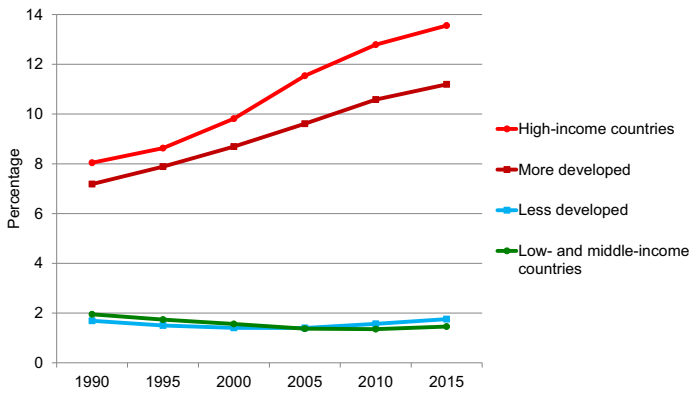CHANGES IN MIGRANT DENSITY IN DIFFERENT TYPES OF COUNTRY

FIGURE 4

CHANGES IN MIGRANT DENSITY MEASURED USING GEOGRAPHIC AND ECONOMIC CRITERIA

Both MD regions and HICs show a steady increase in migrant density, which is more pronounced when the economic criterion is used. Concerning the lower lines, both LD regions and LMICs have very low migrant densities, in the first place because their populations are far greater. In order to see the changes in these lines more clearly, it is necessary to enlarge the scale of Figure 4 and omit the upper lines, as is done in Figure 5.

This graph is the most important one for our argument and shows some striking differences. Firstly, using the regional classification, LD regions (blue) show a U-shaped curve, but using the World Bank's economic classification, the line for LMICs (green) only turns upwards between 2010 and 2015.

More insight into what is going on can be obtained by removing refugees[3] from the figures for migrant stock: the broken lines show the resulting migrant densities. When studying the relationship between migration and development, it is preferable to exclude forced migration because its causes and economic impacts are for the most part very different. In LMICs and LD regions, refugees formed

FIGURE 5

CHANGES IN MIGRANT DENSITY MEASURED USING GEOGRAPHIC AND ECONOMIC CRITERIA, USING A MAGNIFIED VERTICAL SCALE (RESCALED VERSION OF THE LOWEST TWO LINES IN FIG. 4)
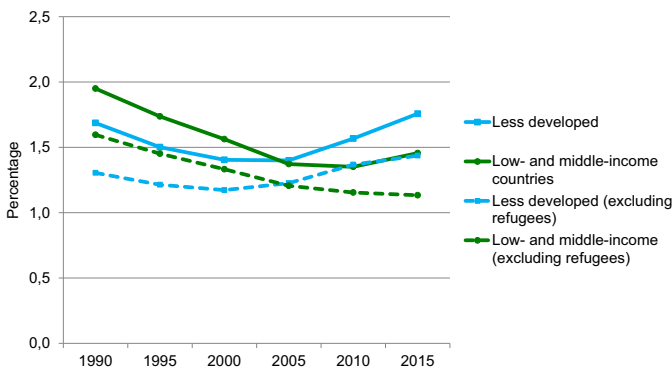
a considerable proportion of all migrants in 2015 (22.1% and 18.3% respectively, in contrast to 2.1% and 2.6% in HICs and MD regions). As a result, the broken lines are much lower than the unbroken ones. Using the UNDESA classification (blue lines), migrant density falls at first but then increases – yet with the World Bank classification (green lines), it falls continuously when refugees are excluded. The large number of refugees in 2015 is thus the only reason why migrant density in LMICs shows an increase in that year. Without them, migrant density in LMICs continues its decline.

Particularly when refugees are excluded, the two criteria thus show very different trends over time. Whereas migrant density increases in LD regions after 2000, LMICs show a steady decline. The main reason for the first result turns out to be the inclusion in the category LD of a fast-grow-ing group of countries that have joined the "high-income" category and attract many migrants. This can be seen from the fact that when these newly rich countries are excluded from the LD category, as shown by the lowest line in Figure 3, migrant density declines.

As others have already noted (OECD 2016:84), it is mainly the inclusion of HICs in the LD cate-gory that is responsible for the widely shared perception that migration to these countries is becoming more common. It is quite true that both absolute numbers and migrant density in LD regions have been increasing since 2005, but as Figure 3 shows, this is only thanks to a small but growing number of prosperous and migrant-rich countries located there. In LMICs within LD regions, migrant density in 2015 was twenty times lower than in the HICs located there (1,2% as against 24%), having declined steadily from 1990 to 2010 (or 2015 if refugees are excluded). Whereas the total population of these LMICs increased from 1990 to 2015 by 44%, the increase in their migrant stock was only 13% (which becomes 9% when refugees are excluded). Table 1 at the end of this article shows summary statistics for 1990 and 2015 that allow these conclusions to be checked.

On reflection, we should not be at all surprised to find that migrant density in the steadily declin-ing number of countries classified as LMIC is not increasing. When a country's prosperity increases it is transferred to the HIC category, taking its migrant population (which will usually be more dense than that of most LMICs) with it. If fish in a pool are removed as soon as they grow large, those left behind will remain small.

Nevertheless, the finding is still in one sense remarkable. Four out of five people in the world live in LMICs in LD regions, so it might be thought that combining their data with those from the much smaller number of HICs in the same regions could not greatly affect the overall findings. After all, these HICs house a mere 2% of the non-migrant population of LD regions. For the migrant population, however, the corresponding figure is 34%, because migrant density in these very atypical countries is extremely high: some of them contain even more international migrants than non-migrants. This puts a different complexion on the often-repeated finding that migrant stock and density in UNDESA's "developing regions" are increasing. The consequences for policy-making are considerable and will be discussed later.

Disaggregating migrant stocks by countries of origin and destination

Up to this point we have examined only the number of migrants in each country, without disaggre-gating them according to their origin using "bilateral" data. "Origin" is operationalised by UNDESA as "country of birth", with some national gaps filled by other migration or citizenship data. For simplicity, no account is taken of the fact that some migrants might have lived in one or more destination countries other than the one they presently live in.

So far we have avoided using the terms "North" and "South" in this article, but this becomes dif-ficult here because they are used in most discussions of bilateral migration. The disadvantage of these terms is their ambiguity. Usually, "South" is a synonym for the LD regions and "North" for the MD ones, but sometimes the terms refer to HICs and LMICs. Because it is not generally rea-lised how different these classifications are, not much attention tends to be paid to the precise

definition. However, we will show that the distinction is particularly important when we examine bilateral migration.

Of course, data on migrant stocks and bilateral data complement each other: the sum of migrants from different origins must be equal to total migrant stock. The finding that migrant stocks in the South (defined according to UNDESA's categorisation) have increased, therefore suggests that South-South migration is likely to have increased too. (It is hard to see where else the additional migrants could have come from: five times more people live in the South than the North, while large-scale emigration from North to South seems unlikely.) It therefore comes as no surprise that bilateral data based on the UNDESA criterion show an increasing ratio of South-South to South-North migration – prompting the United Nations Secretary-General António Guterres to announce at the General Assembly in September 2017 that "South-South migration exceeds South-North migration, despite stereotypes" (Guterres, 2017).

"South" and "North" can also be defined using the World Bank's economic criterion: this should give very different results, because as Figure 4 showed, while migrant density since 2000 has increased in LD countries, it has decreased in LMICs. When refugees are excluded, the contrast is even greater. Several sources of bilateral data make this contradiction visible. Firstly, recent UNDESA publications offer data based on the regional criterion. The 2011 *International Migration Report* (UNDESA, 2012:2) states:

> As of 2010, the number of migrants who had moved from the less developed regions to the more developed regions (or "South-to-North" migration) was nearly of the same order of magnitude as the number of persons who had moved within the less developed regions (or "South-to-South" migration): 74.3 million compared to 73.2 million.

Figure 3 in a recent issue of *Population Facts* (UNDESA, 2017b) shows the distribution of international migrants by development group (North/South) at origin and destination, covering 2000, 2005, 2010, 2015 and 2017. The same data are represented in our Figure 6: it can be seen that South-South migration did indeed overtake South-North just after 2010.

Bilateral data classified in terms of countries' income levels are more scarce, but they can be found in the World Bank's three editions of the *World Bank Migration and Remittances Handbook* (World Bank 2008, 2011, 2016), which examine migration data from 2005, 2010 and 2013 respectively. We have used here the bilateral data used in these Handbooks, which has been placed online

FIGURE 6

DISTRIBUTION OF INTERNATIONAL MIGRANTS BY ORIGIN AND DESTINATION USING UNDESA'S REGIONAL CRITERION FOR 'SOUTH' AND 'NORTH'
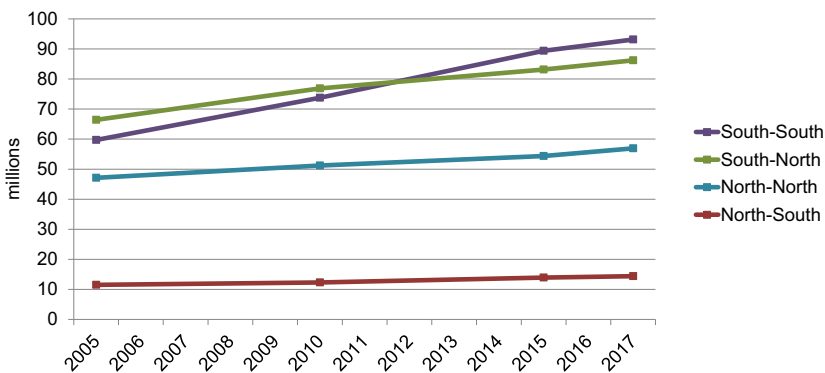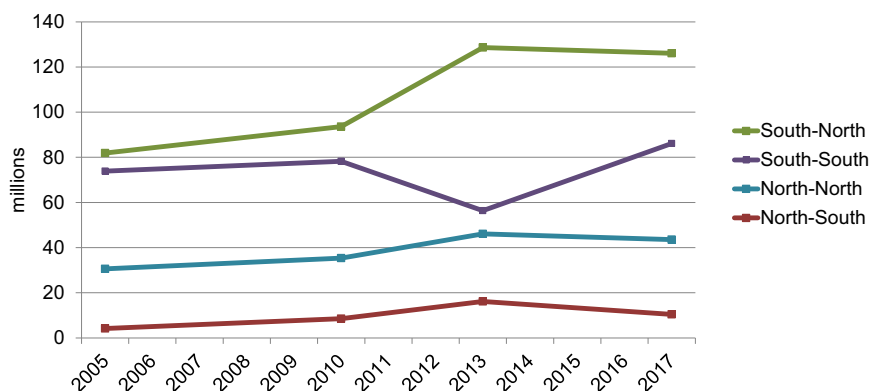
together with additional data from 2017 (World Bank 2017). We have also used the more accurate analysis of the 2005 data reported by Ratha and Shaw (2007), in one of the first articles to draw attention to the importance of South-South migration. Figures 6 and 7 show the contrasting results obtained with the two criteria. Using the World Bank classifications, South-South migration appears to be less than South-North and to have increased less rapidly – the opposite of the findings using the UNDESA criterion.[4]

DISCUSSION

These analyses have shown that classifying developmental level on the basis of geographical location can result in very misleading conclusions. This is a general problem with most attempts to equate locations with inequalities. Like global regions, different areas within countries are often associated with marked inequalities. In towns and cities we speak of living "on the wrong side of the tracks", while retailers wishing to predict consumption patterns often collect information about customers' postcodes. However, all such rules of thumb can be rendered useless by the phenomenon of change. Neglected regions can be revitalised and run-down city areas can become "gentrified" – or the opposite may occur. At world level, the increasing globalisation of capital, goods and – to a lesser extent – labour (Tapinos and Delaunay, 2000) makes it increasingly unrealistic to locate wealth and power permanently in particular geographic locations.

Seen in this light, the UNDESA list of MD countries is of mainly historical interest. Like a compass that has become demagnetised, the regional criterion has now become so unreliable that it can no longer be trusted. Continuing to use it as the basis for policy-making carries the risk of making grave errors.

Problems of using a changeable rather than fixed classification of developmental level

Allowing classifications of developmental level to change over time may be more realistic, but it is accompanied by definite drawbacks. The great advantage of the UNDESA criterion is (in the organisation's own words) its "statistical convenience", because countries have the habit of staying

in the same place. If classifications are allowed to change – whether using the World Bank crite-rion, the HDI, or any other such measure – this means that categorisations can vary from year to year. This requires us to think in a different way about "South" and "North": instead of being places, they become statistical constructs.

A further problem with changeable classifications of developmental level is that they increase the amount of variance in the results. In different years, findings on countries in each category will be based on different groups of countries. Those close to category boundaries will have the least stable classifications (we saw in Figure 3 how the reclassification of South Korea as an HIC drastically reduced migrant density in this group of countries). To reduce this "noise" it would be necessary to smooth out short-term fluctuations, so that rapid changes in (for example) exchange rates and commodity prices do not lead to frequent reclassifications. This suggests that it might be desirable to use an indicator that is less sensitive to external fluctuations and more focused on an economy's intrinsic strength.

In its recent publications, UNDESA seems to be placing increasing emphasis on World Bank classifications. They are referred to extensively in the two most recent *International Migration Reports* (UNDESA 2016, 2017c), while the MD/LD dichotomy is hardly mentioned at all. World Bank categories are also used to disaggregate the data presented in UNDESA's *2017 Revision* of international migrant stock (UNDESA, 2017a); they were already used in the Wallchart based on the *2015 Revision* (UNDESA, 2015). Importantly, however, the organisation does not allow classi-fications of income level to change from year to year. Instead, the values for a reference year (2014 for the *Wallchart,* 2016 for the *2017 Revision*) are ascribed to each country for the entire periods 1990-2015 and 1990-2017.

This hybrid method replaces the regional classification – half a century old – with a more up-to-date set of fixed scores reflecting the situation in 2014 or 2016. The resulting findings are more stable than would be the case if income levels were redefined for each year studied; the method could be seen as combining the advantages of the traditional regional classification with those of an economic one. Developmental levels are fixed for a long period, but on the basis of more up-to-date information.

Unfortunately this method creates considerable distortions, which become greater as the number of years between the reference date and the actual date increases. A country is treated as "high-income" in 1990 if it reached that level a quarter of a century later: its actual income in 1990 is ignored. This introduces inaccuracies that render data for all but the most recent years misleading. This is particularly unfortunate because UNDESA uses not just two World Bank categories, but all four; the results could have been very useful, because the LMIC category covers a wide range of income levels and these may not change over time in the same way. Using UNDESA's hybrid method shows that migration density actually increases in the "upper-middle" income category but decreases in the "lower-middle" and "low" categories. However, we were unable to replicate these results when we re-analysed the data using the true income levels for each year, mainly because of the increased variability of the resulting scores.

Nevertheless, over a shorter time-span – say 5 or 10 years – a fixed classification of income level, based for example on average GNI over the whole period, might provide an acceptable com-promise. Further research is needed to discover the best solution.

Other methodological shortcomings of data on development and migration

So far, we have demonstrated that taking account of population size and adopting an economic cri-terion of development yields quite different results from those found using absolute figures and the traditional regional criterion. This is not to say, however, that these methodological improvements suddenly open a window on the truth. Several other shortcomings exist in the available data that can also distort research findings, particularly in developing countries. We will describe the most

serious of these one by one, considering finally whether they might account for our main findings, which are that migrant density in LMICs is very low and declines steadily between 1990 and 2010 (or 2015 if refugees are excluded from the analysis).

Irregular migration

The article of Ratha and Shaw (2007: 2) argued that "irregular migration is probably even more common in South-South than South-North migration because of tight restrictions on immigration in many developing countries, coupled with limited enforcement, the high cost of travel documents, and unclear immigration rules in the South." To this could be added that a relative lack of regulation in developing countries tends to go hand in hand with large informal economies, which favour irregular migration because of the lack of inspection and supervision of work and trade (factors, of course, that also increase migrants' vulnerability to exploitation and human-rights violations). But would including irregular migrants alter our conclusions?

Irregular migration has become a major research topic in recent years, but estimating the numbers of migrants involved is the hardest type of study to carry out and is done by very few researchers: to a large extent, the volume of irregular migration is a "black box". We have very little reliable information about its volume, whether it is increasing or decreasing over time, and its economic effects. In particular, we cannot say for sure whether it is more common in the South than the North (however these are defined), and whether the rate of change differs between the two. Nevertheless, it remains possible that including irregular migrants, if it could be done, would alter the findings reported here.

Limited resources for collection of population statistics

Much migration in poorer countries may go uncounted because of the incompleteness of population registers and censuses. These data sources are usually available, but they sometimes do not make it possible to disaggregate migrants and non-migrants. Improving data sources on migration is therefore the first objective of the *Global Compact for Safe, Orderly and Regular Migration* (UN, 2018).

Inconsistent criteria for identifying migrants

Legislation and data-registration practices concerning the criterion used for establishing migrant status (e.g. nationality or country of birth) vary greatly. Both of these criteria can be useful for particular purposes: ideally both should be available. Migrants who become naturalised cease to be foreigners but remain foreign-born, so that the citizenship criterion usually yields lower numbers of migrants than country of birth. Less commonly, a bias in the opposite direction is created when children of migrants born in a country that applies *jus sanguine* rather than *jus solis* are given the nationality of their parents.

The method used to establish migrant status in each country (country of birth, citizenship, both, or "imputation") is reported by UNDESA in its migration data. In the *2017 Revision*, 91% of countries in MD regions used country of birth, whereas in LD regions this figure was only 77%. Both methods were used in three LD countries; imputation was used in six, which were equally divided between the two regions.

Neglect of short-term migration

Almost all recorded data on migration concerns only "long-term" migration, defined by UNDESA (1998) as involving actual or intended stays of one year or more. "Short-term" migration (between

3 and 12 months) is therefore almost invisible in official statistics. Residence permits can give an indication of a migrant's length of stay, but not always an accurate one: a short-term permit may be converted to a long-term one, a migrant may leave the country before their permit expires, or they may fail to leave after it has expired or become invalid ("overstaying").

It is probably safe to say that short-term migration is more likely when the distance involved is relatively short; the ease with which a visa can be obtained will also make a difference. For example, European Union citizens do not require a visa to migrate within the Union, which should in principle encourage short-term migration. Conversely, the introduction of restrictive immigration policies may encourage migrants to lengthen their stay, for fear of not being allowed back in if they leave: Penninx (2013) describes how the clampdown on labour migration following the oil crisis in Europe in the 1970s encouraged many "guest workers" not to return to their home countries, but instead to invite their families to join them (see also De Haas et al., 2018). However, reliable data about short-term migration remain extremely scarce.

Migrant stocks versus flows

Figures for migrant stock may include migrants who settled in a country many years, or even decades, earlier: if used to indicate current flows, they can give a seriously distorted picture. Moreover, changes in migrant stock reflect "net" migration, that is they aggregate inflow and outflow. A more accurate impression can be obtained by considering only recently-arrived migrants or by examining annual migration flows, but such data are relatively scarce (IOM, 2018).

What implications do these five problems have for our findings? Specifically, could any of them undermine our main conclusion (that migrant density in LMICs is very low and decreases over time) by providing a plausible alternative explanation?

a) A high level of irregular migration in LMICs would lead to undercounting of migrants and lower migrant density. The question is whether this level is higher in LMICs than in HICs, and whether the gap increases in time; unfortunately, this question cannot currently be answered.
b) Limited information about migrant stocks is more of a problem in LD countries, although the situation is improving. Lack of information will obviously lead to undercounting of migrants in such countries, but this reduction should become less, rather than more, over time.
c) Use of the citizenship criterion instead of country of birth, which as we saw is more common in LD countries, might also lead to undercounting of migrants. However, the method countries used remains the same for the whole period 1990-2015, so changes found over time cannot be explained in this way.
d) Unfortunately, there seem to be no data that would tell us whether short-term migration (which is not recorded in official statistics) is more common in LMICs than HICs, and whether this difference in increasing or decreasing.
e) When migrant stocks are studied instead of migration flows, the inability to distinguish recently-arrived from longer-established migrants means that the ability to detect an increase or decrease will be reduced. Changes may be taking place more rapidly than our methods permit us to see.

Summing up, issues 1 – 4 could all lead to underestimation of migrant stocks in LMICs, so they might provide alternative explanations for the low figures that have been reported. However, it is questionable whether these errors are large enough to account for differences as great as the ones reported here. In 2015, migrant density in HICs was on average nine times higher than in LMICs. Even if we assume – for the sake of argument – that there are no uncounted migrants in HICs, to bring the migrant density in LMICs up to the level of HICs there would have to be eight uncounted migrants for each one that is counted. The shortcomings of data collection in LMICs

discussed above hardly seem capable of rendering invisible such a large number of migrants; they also seem incapable of explaining away a decrease in migrant density in LMICs over time.

IMPLICATIONS FOR POLICY

When the "South" is defined in terms of UNDESA's regional criterion, both absolute numbers of migrants and migrant density are seen to have increased, along with South-South migration. This finding has been enthusiastically welcomed by international organisations (see e.g. IOM, 2014; UNDP, 2017) because it suggests that the potential benefits of migration are becoming more available to developing regions. The enthusiasm is connected with a recent reappraisal of the role of migration in development (De Haas, 2005). Whereas twentieth-century theories often viewed migration as having chiefly disadvantages (such as "brain drain") for sending countries, in the present century it has come to be viewed as a "win-win" situation, especially because of the high volume of remittances sent home by migrants. If new migration destinations are emerging in the South, this increases the opportunities for migrants in that region and promotes development in their countries of origin.

Other potential benefits seen in South-South migration are that distances and cultural differences between sending and receiving countries may be smaller, thus encouraging short-term migration (which would reduce the stress of separation for migrants and their families) and facilitating integration. South-South migration also promises to relieve the perceived pressure on traditional countries of immigration in UNDESA's "North". In many of these countries, political opposition to migrants and "migrant-friendly" policies has increased since the turn of the century; rising numbers of migrants are often framed as a threat to national security and political stability. Finally, the impression that South-South migration is greater than South-North and increasing has led some to suggest that the traditional distinction between sending and receiving countries is eroding.

It is certainly true that an increasing amount of migration takes place within global regions (UNDESA 2016:16). However, if poorer countries are starting to look like richer ones, this is only because the two have been mixed up with each other in the datasets. Wealthy destination countries like Singapore and Qatar are classified by UNDESA as LD, simply because of where they are located. In reality, migrants are indeed heading for new destinations in the LD regions, but the wealthy countries to which most of them are going are few and far between: as mentioned above, in 2015 these countries housed only 2% of the non-migrant population of LD regions. Their rapid economic development is highly exceptional. It would therefore be quite wrong to think that poor countries are becoming more like rich ones in their volume of immigration. On the contrary, using the World Bank's economic classification shows migrant density in LMICs to be very low and declining, particularly when refugees are excluded from consideration. (Notwithstanding the arguments of Betts et al. (2014), forced migrants and their families are unlikely to be able to make the same contribution to the receiving country's prosperity as other types of migrant.)

If findings based on the UNDESA criterion were hailed as good news, our findings using the World Bank criterion – which contradict them in most respects – will probably be regarded as bad news. Using an economic criterion shows that the gap between rich and poor countries in terms of migrant density is getting larger, not smaller. In one respect, however, the news remains good: the emergence of new destination countries in several regions is indeed broadening the opportunities available to migrants.

As was always the case, most migration (except when it is forced) takes place to countries that can offer better economic opportunities than one's own. That wealthy countries can increasingly be

found in one's own region should therefore be good news for everybody: a crucial issue for policy-makers is then how to encourage more of it. Although some countries in LD regions have become prosperous and are attracting more migrants, the number of countries housing a given proportion of the world's migrants is staying remarkably constant (cf. UNDESA 2016:8). The potential benefits of migration are being limited by the fact that surprisingly little diversification of receiving countries is taking place, in contrast to the great diversification of sending countries.

This theme has been explored by Czaika and De Haas (2015), who speak of more migrants being "funnelled" into fewer destination countries. Whether the number is actually fewer, or simply staying the same, is not clear; our figures (sourced from UNDESA) show that overall, the distribution of migrants over countries stayed remarkably similar between 1990 and 2015. During this entire period, the number of countries housing two-thirds of all migrants (excluding refugees) varied between 16 and 18; for those housing 75% of all migrants, it varied between 25 and 26. This seems to confirm that as Czaika and De Haas put it, migrants are not "fanning out" to new destination countries: it seems as though something is impeding the development of new migration corridors.

What could be doing this? Apart from the familiar "push" and "pull" factors such as opportunities in the destination country and lack of them in the country of origin, two other factors are very important determinants of migration flows: the existence of relatively permissive immigration policies in the destination country, and of a diaspora (i.e. people from the migrant's own country). After the first migrants have led the way, informal networks can stimulate others to join them, as well as helping them to travel and to "land on their feet" when they arrive.

A limitation of traditional bilateral agreements is that they usually aim only to build up and improve existing migration corridors, not to create new ones. Typically, they are based on factors such as previous (sometimes colonial) ties, linguistic affinity and economic links. They follow migration patterns, but do not usually create them.

Regional agreements (of which there are already at least 11 world-wide) are in principle better able than bilateral ones to encourage diversification of destination countries. One example is of course the European Union, which guarantees freedom of movement to Member States for EU citizens, subject to certain conditions. Interestingly, despite this freedom, migrants from "third countries" (4.2% of the population in 2017 according to Eurostat) are nonetheless more numerous in the EU than EU migrants (3.3%) – though the difference might be the other way around if short-term migration were included.

To promote diversification, regional agreements should focus not only on the migration corridors that exist, but – even more so – on those that could exist but do not yet. (Of course, very large countries such as China, Brazil and India, as well as some smaller ones, will continue to be able to fill most labour shortages through internal migration.) In order to "prime the pump" for international migration, regional agreements should create special incentives for the pathbreakers, offering them special help with language learning, integration, etcetera. Later, after a corridor has been established, the new diaspora will be able to give intending migrants a helping hand.

Migration can be compared with irrigation: if a dry field is irrigated only at one point, water will find its way down a small number of channels, which will then become progressively deeper. This can result in most of the field remaining dry. What is required is a mechanism to ensure that channels are created that reach all parts of the field. It would be unwise to expect economic growth alone to do this: all the signs are that the spectacular growth in many developing countries at the beginning of this century was a temporary phenomenon. If new migration corridors are proactively encouraged, all countries in a region that can in principle benefit from migration will be able to do so. Policies therefore need to be developed that will widen the range of receiving countries that are attractive to migrants. To this end, new research is required

going beyond the global level studied here and focusing on specific regions, migration corridors and types of migration.

CONCLUSION

The need for adequate and unambiguous data is especially urgent at the present moment, when migration policy is receiving more attention than ever from politicians, policy-makers and the media. Much of this attention is focused on two landmark agreements: the *Global Compact for safe, orderly and regular migration* (UN, 2018) and the *Global Compact on Refugees* (UNHCR, 2018). The Sustainable Development Goals (UNDP, 2016) also include specific targets on migration (10.7), the need for disaggregated data (17.18), and many other migration-related issues. There is widespread agreement that policy-making must be based on solid empirical evidence rather than opinions and rhetoric. In this article we have described a number of reasons for thinking that the evidence base currently being relied on is much less solid than it needs to be. We hope this will result in a more critical attitude to using existing migration data, as well as increased efforts to collect better data.

NOTES

1. In this article we follow the *United Nations Recommendations on Statistics of International Migration, Revision 1* (UNDESA, 1998) in defining an international migrant as any person who changes his or her country of usual residence. An international migrant who changes his or her place of usual residence for at least one year is defined as a long-term migrant, while a person who changes his or her place of usual residence for more than three months but less than one year is considered to be a short-term migrant.
2. For three reasons, discrepancies can exist between the figures reported here and by UNDESA.
   a) UNDESA lists about 2 million refugees in the State of Palestine, who are however not included in the total for migrants. Although these persons have been granted a special form of refugee status, in terms of the standard definition they are not refugees because they have not crossed a national border. They are therefore not included as refugees in our analyses.
   b) Although Taiwan is not included in the UNDESA list of countries, its population is nevertheless added each year to the totals for East Asia and the world, as well as for 'upper-middle income countries' and LMICs. No figures for migrants and refugees are added. In our analyses no data from Taiwan are used.
   c) We have excluded all data from Montenegro and South Sudan between 1990 and 2005, because no totals for migrants and refugees were available for those countries.
3. In UNDESA databases asylum seekers are counted as 'refugees', despite the fact that many of them never obtain a residence permit. Figures for recognised refugees in industrialised countries are estimated using a formula developed by UNDESA, since most such countries do not register them separately.
4. Results for 2013 using the World Bank's classification were based on GNI levels for 2014; they show an abrupt rise for South-North migration and a fall for South-South. This illustrates the vulnerability of the GNI measure to short-term economic fluctuations. In 2014, the Russian Federation and Venezuela were classified briefly as HICs, but both fell back to the LMIC category in 2015 because of falling prices for oil and natural gas, currency changes and other issues. Because of Russia's large migrant population (11 million), this caused the gap between South-North and South-South migration to suddenly become much wider in that year. If these countries had stayed in the LMIC category, our calculations show that the brown and blue lines in Figure 7 would have been much less crooked. Once again, this strengthens the argument for "smoothing" World Bank classifications when they are used to study migration.

TABLE 1

MIGRATION DATA FOR 1990 AND 2015

Data for 1990

Type of country	Number	Population (thousands)	Migrants	Refugees	Migrants - Refugees	% Migrants	% Refugees	% Migrants - refugees	% refugees among migrants
Less developed and LMIC	138	4,135,572	62,289,189	15,864,081	46,425,108	1.51	0.38	1.12	25.47
More developed but LMIC	25	364,533	25,454,989	48,856	25,406,133	6.98	0.01	6.97	0.19
Less developed but HIC	13	19,402	7,514,648	40,688	7,473,960	38.73	0.21	38.52	0.54
More developed and HIC	29	781,844	56,934,763	1,965,708	54,969,055	7.28	0.25	7.03	3.45
LMIC	163	4,500,106	87,744,178	15,912,937	71,831,241	1.95	0.35	1.60	18.14
HIC	42	801,246	64,449,411	2,006,396	62,443,015	8.04	0.25	7.79	3.11
Less developed	176	4,157,864	70,150,754	15,911,370	54,239,384	1.69	0.38	1.30	22.68
More developed	56	1,146,384	82,391,619	2,014,564	80,377,055	7.19	0.18	7.01	2.45
World total	232	5,304,248	152,542,373	17,925,934	134,616,439	2.88	0.34	3.05	11.75

Data for 2015

Type of country	Number	Population (thousands)	Migrants	Refugees	Migrants - Refugees	% Migrants	% Refugees	% Migrants - refugees	% refugees among migrants
Less developed and LMIC	127	5,948,717	70,378,159	19,545,613	50,832,546	1.18	0.33	0.85	27.77
More developed but LMIC	12	251,406	19,886,133	431,065	19,455,068	7.91	0.17	7.74	2.17
Less developed but HIC	34	154,781	36,454,619	76,939	36,377,680	23.55	0.05	23.50	0.21
More developed and HIC	42	1,001,794	120,362,275	3,197,379	117,164,896	12.01	0.32	11.70	2.66
LMIC	139	6,200,123	90,264,292	19,976,678	70,287,614	1.46	0.32	1.13	22.13
HIC	76	1,156,575	156,816,894	3,274,318	153,542,576	13.56	0.28	13.28	2.09
Less developed	176	6,106,317	107,335,547	19,622,552	87,712,995	1.76	0.32	1.44	18.28
More developed	56	1,253,207	140,250,197	3,628,444	136,621,753	11.19	0.29	10.90	2.59
World total	232	7,359,523	247,585,744	23,250,996	224,334,748	3.36	0.32	0.96	9.39

TABLE 1

(CONTINUED)

The five countries in each group with the most migrants (including refugees) in 1990 (Population in thousands)

Less developed and LMIC				More developed but LMIC				Less developed but HIC				More developed and HIC			
Country	Population	Migrants	%	Country	Population	Migrants	%	Country	Population	Migrants	%	Country	Population	Migrants	%
India	870,133	7,493,204	0.9	Russia	147,564	11,524,948	7.8	Hong Kong	2,218,473	2,208,381	38.4	USA	252,530	23,251,026	9.2
Pakistan	107,679	6,208,204	5.8	Ukraine	51,464	6,892,920	13.4	Israel	1,632,704	1,632,704	36.3	Germany	79,118	5,936,181	7.5
Saudi Arabia	16,327	4,998,445	30.6	Belarus	10,217	1,248,977	12.2	UAR	1,306,574	1,306,141	70.2	France	56,961	5,897,267	10.4
Iran	56,226	4,291,601	7.6	Poland	37,955	1,127,771	3.0	Kuwait	1,074,391	1,044,391	51.2	Canada	27,693	4,333,318	15.6
Kazakhstan	16,540	3,619,200	21.9	Latvia	2,664	646,007	24.2	Singapore	727,262	727,116	24.1	Australia	17,041	3,955,213	23.2

The five countries in each group with the most migrants (including refugees) in 2015 (Population in thousands)

Less developed and LMIC				More developed but LMIC				Less developed but HIC				More developed and HIC			
Country	Population	Migrants	%	Country	Population	Migrants	%	Country	Population	Migrants	%	Country	Population	Migrants	%
India	1,309,054	5,240,960	0.4	Russia	143,888	11,643,276	8.1	Saudi Arabia	31,557	10,771,366	34.1	USA	319,929	48,178,877	15.1
Turkey	78,271	4,131,302	5.3	Ukraine	44,658	4,915,142	11.0	UAR	9,154	7,995,126	87.3	Germany	81,708	10,220,418	12.5
S. Africa	55,291	3,816,696	6.9	Belarus	9,486	1,082,905	11.4	Kuwait	3,936	2,866,136	72.8	UK	65,397	8,411,021	12.9
Pakistan	189,381	3,628,956	1.9	Serbia	8,851	807,441	9.1	Hong Kong	7,246	2,838,665	39.2	France	64,457	7,918,382	12.3
Kazakhstan	17,750	3,546,778	20.0	Croatia	4,236	575,738	13.6	Singapore	5,535	2,543,638	46.0	Canada	35,950	7,561,226	21.0

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