What is driving direct mail ?
Spring 2003

WORLDWIDE BENCHMARKING STUDY

The impact of address systems on Mail Volumes

Postal Solutions

Postal Solutions

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The Impact of Address Systems on Mail Volumes

The main drivers of mail volumes are economic. Companies generally make their decisions on mail volumes based on the expected return on investment – the likelihood that a campaign will generate enough sales to cover its cost and return a profit.

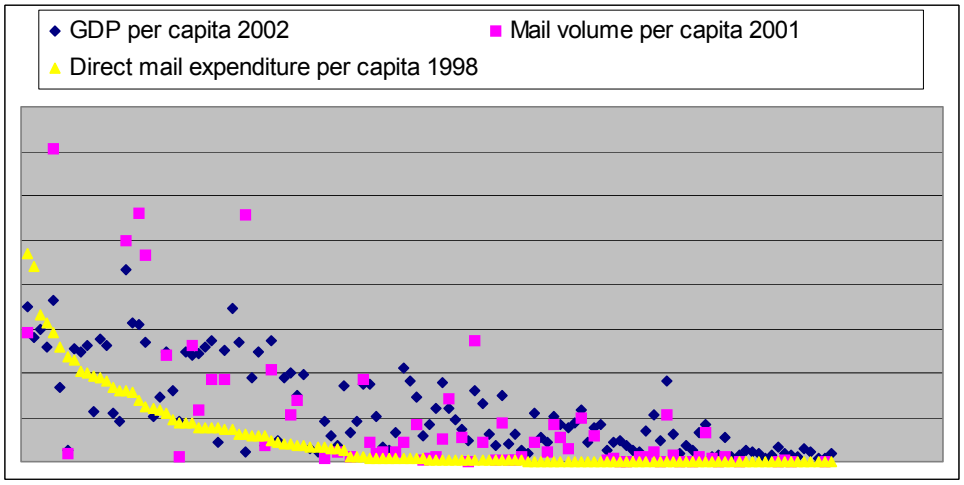
There are, however, other (sometimes related) factors which influence direct mail volumes. One of these is the address systems used within a country. The way in which postal addresses are built affects not just the postal deliverability of a direct mailing package, but, importantly, the manageability of addresses for the company planning a direct mail campaign. A country with a postal code system defining a small group of houses and with an address structure that contains for every address a fixed number of elements which can be highly standardised allows a company to manage addresses better. They can import, process, de-duplicate and output data more efficiently, leading to lower data management costs, fewer duplicates and therefore lower wastage. This lowers the costs of a direct mailing campaign and increases the return on investment, and will therefore affect direct mail volumes.

Given the complexity of company decision making and the enormous number of factors affecting it, no direct causal links can be defined that will hold in all cases. This report aims to look at the world's address systems and identify, where possible, the effect they have on direct mail volumes.

Factors affecting direct mailing volumes

Economic prosperity and the level of advertising are the key determinants of mail volumes. As a country's economy and consumerism grows, so the amount of mail grows. This is shown well in *figure 1*. This economic linkage is statistically overwhelming and tends to swamp other effects on direct mailing volumes, such as address and postal code systems, language spoken by the population and so on. However, links can be identified, as we shall discuss below.

Figure 1 – the relationship between economic wealth and direct mailing volumes, by country



Note: Mail volumes are a function of economic development. However, within countries of similar economic development, advertising spending has been shown to be a better predictor of mail volumes.

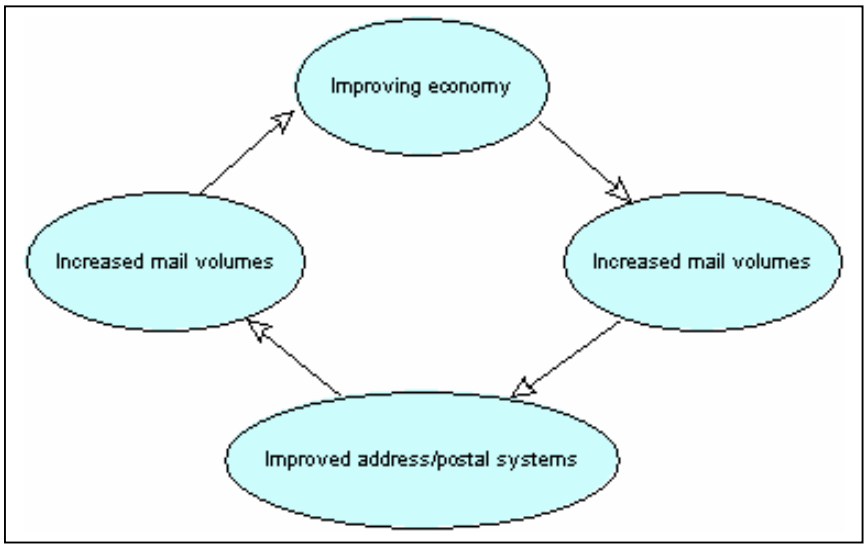
Address and postal code systems

Address and postal code systems vary enormously. Around 120 different address format systems are used by the 241 countries and territories of the world. This figure is defined looking at addresses on a macro level – if one looks at minor differences in address structures, there are more structures than there are countries and territories. Furthermore, within these address systems are differences in, for example, postal code system. Whilst in one country a code may cover a single company or building, in another it may cover a number of settlements, whilst in a third no postal code system is used.

It is difficult to separate the impact of economic development and address systems on mail volumes, because the development of both go hand in hand. As a country's economy develops, mailing volume increases. Older, manual

and non-automated management of the postal system becomes less cost effective. Dependency upon the knowledge of the postal delivery person becomes less acceptable. Furthermore, companies holding databases require more standardised and codified address systems to allow better data management, to reduce de-duplication rates and to reduce costs, thus increasing return on investment. Postal services which introduce these improved addressing systems are then rewarded further with increased direct mailing volumes as address data management becomes less difficult. (See figure 2).

Figure 2



Quantifying the differences between address systems

Due to the large variation in address systems, some way to compare the different systems quantitatively needed to be developed. For this report the address systems of the world were coded as follows:

Address systems

Code	*Description*
4	A fixed, highly structured format with specified components, non-varying format.
3	A structured address format, non-specific or varying/flexible format.
2	A descriptive address format or a highly un-structured or variable address format
1	Limited delivery possibilities (for example, no house-to-house postal deliveries)

Postal code systems

Code	*Description*
4	All postal codes are unique point-of-delivery codes or cover equal-sized groups of point-of-delivery.
3	Some postal codes down to point-of-delivery or small groups of points-of-delivery, others to settlement or groups of settlement level.
2	All postal codes cover a settlement, municipality, post office, postal route or larger area.
1	No national postal code system

A country such as The Netherlands, which has an address format requiring (for house-to-house deliveries) always the same 5 basic pieces of information (street name, house number, sub-building indicator, postal code and postal

town) and has postal codes down to small groups of points-of-delivery will have the codes 4 and 4; Italy, whose address format is a little more varying and whose postal codes can cover an area in size between groups of buildings and several small settlements, will have the codes 3 and 3; and so on.

The categories defined for each country, and a fuller explanation of how countries were categorised, is given in appendix 1. It must be noted that, given the variance in address systems it has not always been easy to group them into single categories – these definitions are defined only for the purposes of illustration within this report.

The relationship between address and postal code systems and direct mailing volumes is easiest to show graphically.

Figure 3: Address formats grouped by GDP

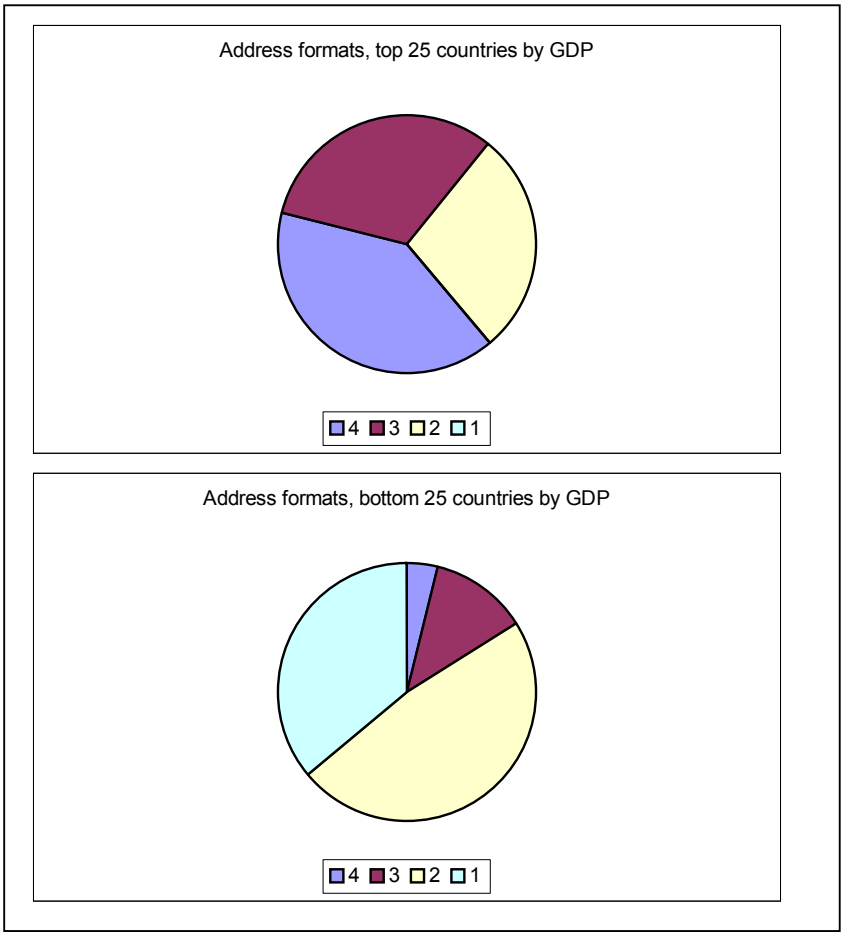
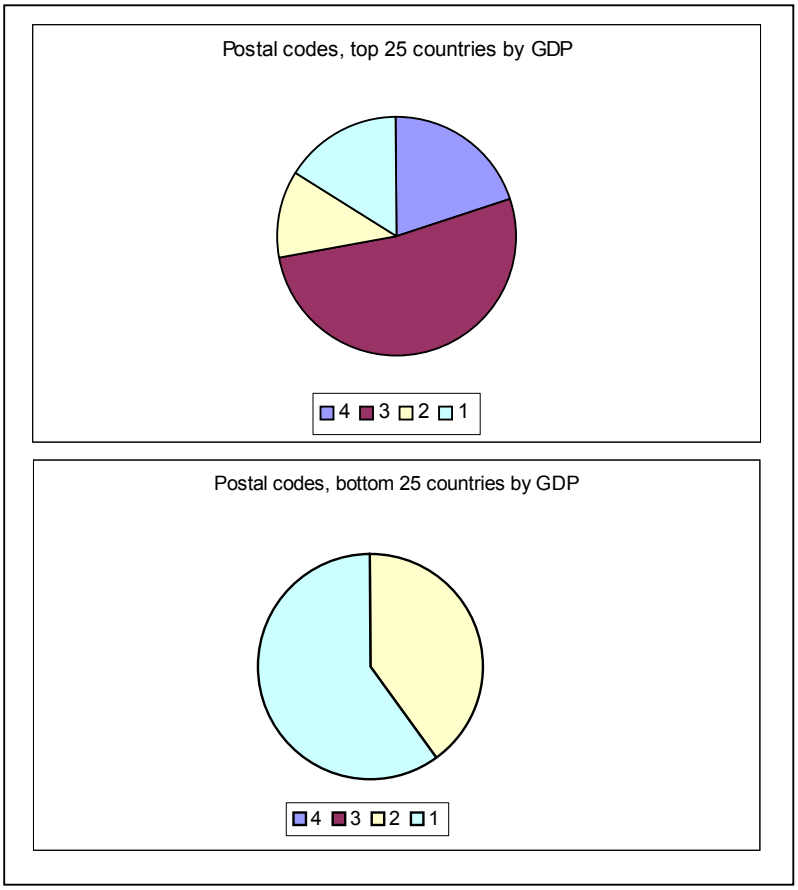


Figure three shows the top and bottom 25 countries by GDP as defined by their address category. As can be seen, over two-thirds of the top 25 countries have address systems which match the top two categories (4 and 3), as defined above. This level of address standardisation allows greater data control and processing for data managers handling data for these countries. None of the top 25 countries have an address format in the least structured category.

The picture for the bottom 25 countries by GDP is very different. 80% of the countries have address formats in one of the two least structured formats (1 and 2). The majority of those countries or territories in this group with address format categories 3 or 4 are either overseas territories of countries with highly developed address systems or tiny nations where address formats are simple and formatted as dictated purely by the tiny population.

Graphics for postal code formats tell a similar story (figure 4).

Figure 4: Post Code systems grouped by GDP



Almost three-quarters of the countries in the top 25 by GDP have high category postal code systems (categories 3 or 4), whilst every country in the lowest 25 by GDP have either no postal code or one which covers large areas.

It should be noted that a number of other factors can be shown to interfere with this correlation. The most important are

- Affiliation with, or proximity to, richer countries. Overseas territories of developed countries, or smaller countries sharing postal systems with their larger neighbours, such as Monaco and Liechtenstein, have a tendency to skew data somewhat.
- Unusual or specialist population type making a country more or less attractive for direct marketing, such as Vatican City.
- Small population size can make address formats and postal requirements very simple but direct marketing volumes very low, such as Tokelau and Pitcairn Islands.

The impact of address systems on mail volumes

In collaboration with Postal Solution a statistical model was developed to measure the impact of address systems and postal code systems on mail volumes.

In stage 1 a correlation analysis was run, the key results are shown below

Correlations

	Correlation with Mail Volumes	Statistically Significant	Relationship
Post code system	0.333	no	better postcode systems help build mail volumes
Address structure	0.521	yes	better address structures help build mail volumes

In stage 2 a full model was developed keeping the address structure variable defined in this report and the other statistically significant variables.

The best model created at predicting mail volumes was

Predicted
Mail Volume = Constant +
+ A^{1} * Total Advertising (F_ADV_PER_)
+ B^{2} * Quality of address systems (ADDRESS_FO)
+ C^{3} * Advertising as percentage of GDP (ADVASPERCO)
+ D^{4} * Quality of consumer and Business lists available (LIST_SCORE)

When applied in 163 countries this model is able to predict **80%** of the variance in mail volumes.

The model defined is the following:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	17.760	19.759		.899	.370
	F_ADV_PER_	.863	.105	.613	8.203	.000
	ADDRESS_FO	23.544	6.989	.142	3.369	.001
	ADVASPERCO	-4970.600	1745.165	-.173	-2.848	.005
	IMAPS__LIS	65.745	8.516	.401	7.720	.000

a. Dependent Variable: F_MAIL_CAP

Conclusions

No statistically significant relationship was identified between postal code systems and mail volumes. It is our belief that the possible impact of better postal code systems is hidden by the strong correlation between the level of economic development, address formats and postal code formats.

In contrast, a statistically significant relationship between address systems and mail volumes was identified. According to this model a change from one level of address system quality to the next would translate into an additional 23.54 mailing pieces per person.

For the postal services interested in promoting the growth and development of direct mail, investments should be made to ensure the postal code systems and address systems are designed to make it easier and more profitable for companies to mail more.

Appendix 1

For the purposes of statistical analysis, the address system and postal code system of each country were classified using this system:

Address systems

Code	*Description*
4	A fixed, highly structured format with specified components, non-varying format.
3	A structured address format, non-specific or varying/flexible format.
2	A descriptive address format or a highly un-structured or variable address format
1	Limited delivery possibilities (for example, no house-to-house postal deliveries)

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Code	*Description*
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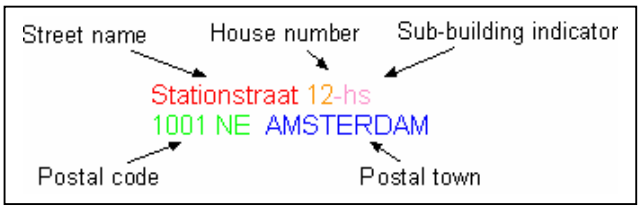
1	No national postal code system

The categorization system for address systems requires more explanation.

Addresses here have been classified according to the amount of variation that is found in an address structure in its daily use. It is not a reflection of the amount of regulation or address specification produced by the postal services concerned.

The Netherlands, for example, has been coded into category 4. In 99% of Dutch addresses the same five pieces of information are required, written always in the same order. These are the street name, the building number, a sub-building indicator (for example, a floor number, if present, or a number prefix), a postal code and a postal town:



Though the way a user writes the data within these components can differ, for example in the casing of the components, spelling errors, non-standard abbreviations and so on, if 1000 Dutch people were asked to write their addresses, they would likely all write them in exactly this structure. This is the sort of structural consistency required for a country to be categorized as level 4.

France has a similar format, but it has been categorized as level 3. French addresses show a greater degree of variance. For example, some addresses may contain a secondary street address string, containing a building name or industrial zone, for example. Equally, the postal town name is not always the same as the name of the settlement where the address is located, so some users may write both settlement names. Thus, ask 1000 French people to write their address and there will be some degree of variance in the structures that they use. This variance in possible structure dictates the categorization as level 3.

The United Kingdom, though many resources are available to correctly structure addresses, has been categorized as level 2 – again, we are looking at the address structure as end users experience them. Users often write UK addresses in highly variable and descriptive ways. They may contain a mixture of components such as:

- One or more sub-building indicators
- One or more street names

- One or more building numbers
- Zonal indicators, such as industrial estate names
- Up to three settlement names
- A postal code
- An administrative area name (also for areas no longer in existence, such as Middlesex).

Thus, though strictly only the house number or name and the postal code are required for delivery, an address may look like this:

> 7th Floor
> Unit 2
> 32 High Road
> Seven Elms Industrial Estate
> Off Ealing Broadway
> Didsbury
> Manchester
> M23 1FK
> Greater Manchester

This is a fictitious example, but it shows clearly how, with such a variable address format, there is scope for immense variance in data entry, data storage and data use. This same address may be found as:

> 32 High Road
> Manchester
> M23 1FK

This is also deliverable. In fact, it may be written by different people in different sources in any number of ways with any number of possible combinations of components between the 9-line version and the 3-line version above. Due to this enormous variance in the structures used by individuals, a category 2 is given.

Category 1 is defined by postal possibilities and is assigned to countries where no or limited house-to-house deliveries are available.

Address format and postal code categories, per country:

Country	Address formats	Postal codes
Afghanistan	1	1
Albania	2	1
Algeria	3	2
American Samoa	3	4
Andorra	3	1
Angola	2	1
Anguilla	2	1
Antigua & Barbuda	1	1
Argentina	3	4
Armenia	3	2
Aruba	2	1
Australia	4	3
Austria	4	3
Azerbaijan	3	2
Bahamas	2	1
Bahrain	2	2
Bangladesh	2	2
Barbados	2	1
Belarus	3	2
Belgium	4	3
Belize	2	1
Benin	1	1
Bermuda	2	3
Bhutan	1	1
Bolivia	3	1
Bosnia-Herzegovina	3	2
Botswana	1	1
Brazil	3	4
British Virgin Islands	1	1
Brunei Darussalam	2	2
Bulgaria	3	2
Burkina Faso	1	1
Burundi	1	1
Cambodia	2	2
Cameroon	1	1
Canada	3	3
Cape Verde Islands	3	2
Cayman Islands	2	1
Central African Republic	1	1
Chad	1	1
Chile	3	4
China	2	2
Christmas Island	4	2
Cocos (Keel.) Is	4	2
Colombia	3	1
Comoros	1	1
Congo-Brazzaville	2	1
Congo-Kinshasa	1	1
Cook Islands	1	1

Country	Address formats	Postal codes
Liberia	2	2
Libya	2	1
Liechtenstein	4	2
Lithuania	4	2
Luxembourg	4	3
Macao	3	1
Macedonia	3	3
Madagascar	2	2
Malawi	1	1
Malaysia	2	2
Maldives	2	3
Mali	2	1
Malta	3	2
Marshall Islands	3	4
Martinique	3	3
Mauritania	1	1
Mauritius	2	1
Mayotte	3	3
Mexico	3	3
Micronesia	3	4
Moldova	3	2
Monaco	3	3
Mongolia	2	2
Montserrat	2	2
Morocco	3	2
Mozambique	3	2
Myanmar	2	2
Namibia	1	1
Nauru	2	1
Nepal	2	2
Netherlands, The	4	4
Netherlands Antilles	3	1
New Caledonia	2	3
New Zealand	3	2
Nicaragua	3	2
Niger	1	1
Nigeria	2	2
Niue	1	1
Norfolk Island	4	2
North Korea	2	1
Northern Mariana Islands	3	4
Norway	4	3
Oman	2	2
Pakistan	2	2
Palau	3	4
Panama	2	1
Papua New Guinea	2	2
Paraguay	3	3
Peru	3	4 (two

					towns only)
Costa Rica	2	2	**Philippines**	2	2
Croatia	3	2	**Pitcairn Islands**	4	1
Cuba	2	2	**Poland**	4	3
Cyprus	3	2	**Portugal**	4	3
Czech Republic	3	3	**Puerto Rico**	3	4
Denmark	4	3	**Qatar**	1	1
Djibouti	1	1	**Réunion**	3	3
Dominica	2	1	**Romania**	3	2
Dominican Rep.	2	2	**Russia**	3	2
East Timor	2	2	**Rwanda**	1	1
Ecuador	3	3	**St Helena**	3	2
Egypt	2	2	**St Kitts & Nevis**	2	1
El Salvador	2	2	**St Lucia**	2	1
Equatorial Guinea	1	1	**St Pierre et Miquelon**	3	3
Eritrea	2	1	**St Vincent and the Grenadines**	2	1
Estonia	3	3	**Samoa**	2	1
Ethiopia	2	1	**San Marino**	3	2
Faeroe Islands	4	2	**Sao Tome & Principe**	3	1
Falkland Islands	2	1	**Saudi Arabia**	2	1 (partial Coverage only)
Fiji	2	1	**Senegal**	2	1
Finland	4	3	**Serbia and Montenegro**	3	2
France	3	3	**Seychelles**	2	2
French Guiana	3	3	**Sierra Leone**	2	1
French Polynesia	3	3	**Singapore**	3	4
Gabon	1	1	**Slovakia**	3	3
Gambia, The	2	1	**Slovenia**	3	2
Georgia	3	2	**Solomon Islands**	1	1
Germany	4	3	**Somalia**	1	1
Ghana	1	1	**South Africa**	3	2
Gibraltar	3	1	**South Korea**	3	3
Greece	3	2	**Spain**	4	3
Greenland	3	2	**Sri Lanka**	2	2
Grenada	2	1	**Sudan**	2	2
Guadeloupe	3	3	**Suriname**	2	1
Guam	3	4	**Swaziland**	1	2
Guatemala	3	2	**Sweden**	3	3
Guernsey	2	4	**Switzerland**	4	2
Guinea	1	1	**Syria**	2	1
Guinea-Bissau	2	2	**Taiwan**	2	2
Guyana	2	1	**Tajikistan**	3	2
Haiti	2	2	**Tanzania**	2	1
Holy See	4	2	**Thailand**	2	2
Honduras	3	4	**Togo**	1	1
Hong Kong	2	1	**Tokelau**	4	1
Hungary	3	2	**Tonga**	1	1
Iceland	4	2	**Trinidad & Tobago**	2	1
India	2	2	**Tunisia**	2	2
Indonesia	2	2	**Turkey**	2	2
Iran	2	2	**Turkmenistan**	3	2
Iraq	2	2	**Turks & Caicos Islands**	2	1

Ireland	2	1
Isle of Man	2	4
Israel	4	2
Italy	3	3
Ivory Coast	1	1
Jamaica	2	1
Japan	3	3
Jersey	2	4
Jordan	3	2
Kazakhstan	3	2
Kenya	1	2
Kiribati	1	1
Kuwait	2	3
Kyrgyzstan	3	2
Laos	2	2
Latvia	4	2
Lebanon	2	4
Lesotho	1	2

Tuvalu	1	1
Uganda	1	1
Ukraine	3	2
United Arab Emirates	1	1
United Kingdom	2	4
United States	3	4
United States Virgin Islands	3	4
Uruguay	3	3
Uzbekistan	2	2
Vanuatu	2	1
Venezuela	2	2
Vietnam	2	2
Wallis & Futuna	2	3
Western Sahara	3	2
Yemen	2	1
Zambia	2	2
Zimbabwe	2	1

End

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