The percentage rule for minority-language rights: Inadequate or discriminatory

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The percentage rule for minority-language rights: Inadequate or discriminatory*

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Abstract

Based on a cost-oriented approach to public policy, we discuss how to decide about the implementation of linguistic minority rights. A formal model of policy measures is reviewed and a cost-efficient policy is characterized. The effects of the percentage rule – that rights be implemented if the relative size of a minority community reaches a certain level –, which in many cases are absurd, are demonstrated. The question to be asked is then how the percentage rule can be rationalized. That is, given the cost structures of policy measures, can the percentage rule be derived from people's preferences in society?

It is argued that the percentage rule is "rational" only if the majority population displays preferences for discrimination of the members of the minority. Further, one has to require that the policy measures result in rival, non-spatial goods. That is, in addition to the aversion of the majority population against the rights of the members of the minority, there can be no economies of scale in the policy measures; else the percentage rule is useless as an instrument for guiding the choice of minority-policy measures.

Keywords: ethnic and linguistic minorities, costs of public policy, language rights, percentage rule, discrimination

Resumo

Surbaze de kosto-orientita aliro al la politikaj agoj en la sektoro publika, ni pridiskutas kiel oni decidu pri la realigo de minoritataj rajtoj. Ni prezentas formalan modelon de politikeroj kaj karakterizas kostoefikan politikon. Ni montras la multkaze absurdajn efikojn

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Unfortunately, the printed version contains so many printing errors that this working-paper is to be seen as the better version. The electronic version will soon be corrected.

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de la procentregulo – ke rajtoj estu efektivigitaj se la relativa grandeco de la malplimulta komunumo atingas certan nivelon. Kiel oni povas raciigi la procentregulon nun estas farinda demando. Tio estas, ĉu oni povas dedukti la procentregulon surbaze de la preferoj de la societanoj por donita kostostrukturo de la politikeroj?

Argumentatas, ke la procentregulo estas «racia» nur se la plimultanoj montras preferojn por diskriminacio de la malplimultanoj. Krome oni devas postuli, ke la politikeroj resultigu rivalecajn kaj ne-spacecajn bonojn. Tio signifas ke – aldone al la ĉeesto de aversio de la plimultanoj kontraŭ la rajtoj de la malplimultanoj – ekonomio de skalo en la provizado de bonoj far la politiko ne povas ekzisti; alikaze la procentregulo estas senutila kiel ilo por gvidi la selektadon de eroj en la minoritata politiko.

Ŝlosilvortoj: etnaj kaj lingvaj malplimultoj, kostoj de politiko, lingvaj rajtoj, procentregulo, diskriminacio

1 INTRODUCTION

Language policy and minority protection go hand-in-hand. In most countries of the world, there are linguistic minorities. The treatment of the minorities varies considerably from country to country. The state has various instruments at its disposal for trying to achieve its goals.[1] At the same time, most countries justify their treatment of minorities on some basic principles, ranging from the equality of all human beings to the creation of a "perfect" state. Minority rights are specified in some international conventions.[2] General expressions like "(traditional) area of habitation" or "substantial number" of the speakers can be found in such texts. The motivation for language rights ranges from "need" to "demand". Need for rights can be interpreted as an aid to individuals who do not sufficiently master the majority language;[3] the desires or preferences of the speakers of minority languages are not important. Demand, on the other hand, respects the wishes of the speakers irrespective of their competences in other languages.[4]

On the national level, in laws and regulations[5] one can distinguish between two basic and different approaches. In some countries we have *ad hoc* specifications,[6] whereas other countries specify rules that have to be met by any language in order for it to gain a certain status, irrespective of jurisdictions. Most commonly, the minority has to reach a certain proportion of

[1] For a discussion of how the instruments can be used to achieve different goals, see WICKSTRÖM (2020).

[2] A good example is United Nations' declaration of minority rights (UNITED NATIONS, 1992); see also the overview in DUNBAR (2001).

[3] Ginsburg and co-authors use the term "linguistic disenfranchisement" for individuals who cannot communicate in the approved languages in the society and report fractions of the population in different countries in the European Union that find themselves in this position under different proposed language regimes in the EU. See, for instance, GINSBURGH and WEBER (2005) or GINSBURGH, ORTUÑO-ORTÍN, and WEBER (2005). GAZZOLA (2016) is also in this tradition.

[4] An approach based on economic welfare theory meets this requirement; see WICKSTRÖM (2016) or WICKSTRÖM (2017).

[5] An excellent source for this in the whole world is LECLERC (2019); here one finds the different laws and regulations in French translation and, in many cases, in the original language.

[6] In Austria, for instance, there is a decree, REPUBLIK ÖSTERREICH (1977), regulating the status of Slovenian in specified jurisdictions. Similar decrees exist for Croatian and Hungarian. In Slovenia, the law, REPUBLIKA SLOVENIJA (2006), regulates the use of Italian and Hungarian in certain jurisdictions.

the total population in the jurisdiction to get some rights.[7]

In this essay, we will scrutinize the percentage rule. We will analyze how the rule functions in different environments, showing that in many cases it leads to absurd results. We will look for principles, justifying the use of the rule, and argue that the rule can only be rationalized in some special cases and under the condition that the majority population has preferences for discrimination and those preferences are taken into consideration in designing the language policy. In section 2, the basic analytic approach based on the costs of the language policy is presented. Section 3 looks at how the percentage rule functions in different environments, and section 4 asks the question, under which assumptions the rule is sensible. Some concluding remarks are found in section 5.

2 AN ECONOMIC COST-BENEFIT APPROACH TO LANGUAGE PLANNING

The obvious tool to use in order to analyze public policy, whereof language policy is but one type, is cost-benefit (or cost-effectiveness) analysis. There is a fair amount of literature on the benefits of language policy.[8] In comparison, we find very little on the costs. One notable exception is in the work of François Vaillancourt and his coauthors, for instance, Vaillancourt (1997), Desgagné and Vaillancourt (2016), or Vaillancourt (2018). To study the efficiency of language policy, however, the cost side is of utmost importance. This applies both to the size of costs and to the structure of costs. As a benchmark for the analysis of the percentage rule, we will first set up a simple model of the costs of a language-policy measure.[9]

2.1 Notation

We define a *language-planning measure* as the smallest unit of language policy.[10] The implementation cost of the measure is c, and the number of its potential beneficiaries is n. The spatial size (area) of the jurisdiction of implementation is denoted by a.[11] For each planning measure we require the resulting goods to be available to each beneficiary in the same way and describe

[7] In Slovakia and Romania, for instance, the minority has to reach at least a fraction of 15% or 20%, respectively, of the population in order to be granted minority rights; see Slovenská republika/Szlovák Köztársaság (2012) and România (2001). In Estonia, the minority has to exceed 50% of the population in the local jurisdiction; see Eesti Vabariik (1992). Other specific rules exist. In Finland rights are granted if the minority population in a jurisdiction exceeds 8% or 3000 individuals. See Suomen tasavalta/Republiken Finland (2003).

[8] See, for instance, Gazzola (2014), Gazzola and Grin (2017), or Grin (2003), and the references in those contributions.

[9] The model is the same as in Wickström (2017) and Wickström (2020). There is no essential difference between the description in those essays and in this section of the current one.

[10] Some examples of such measures are the use of a minority language in official documents, like in passports, on money bills, and in laws and decrees, the provision of bilingual street signs, the introduction of a right to receive public services in a minority language, the provision of education in a minority language, etc.

[11] A *language policy*, of course, consists of several individual measures that can be bunched together into several *categories*. We can distinguish three levels. On the lowest level is the policy measure, on the next level are the categories, each consisting of similar measures in some sense, and on the top level is the language policy consisting of several categories. The problem of finding an optimal set of categories and assigning the measures to categories is both interesting and complex. For a discussion of the aggregation problem, see Wickström (2017). For our purposes, however, we can neglect this aspect and concentrate on the properties of one single measure.

the costs as a function of the number of beneficiaries n and the area of application of the measure a. A perfectly non-rival good (for instance the use of the minority language in public decrees or on street signs) will then only cause fixed costs and a perfectly rival good will give rise to a proportional (or affine, if there are fixed costs) cost structure. Health services or public education in a minority language, although not perfectly rival, are practical examples of goods that display a fairly high degree of rivalry. These goods as well as any other good displaying less then perfect non-rivalry (some positive economies of scale in consumption) will lead to a concave cost structure in the n-dimension.[12]

Also in the spatial dimension there can be different economies of scale. For a perfectly non-spatial good (for example the use of the minority language in public decrees or information provided in the internet or from a call center) the size of the jurisdiction doesn't matter for the costs. A perfectly spatial good (for instance, street signs in a minority language or home health services in a minority language), on the other hand, will give rise to a more or less proportional (or affine) cost structure. Again, these goods as well as goods displaying some, but less then perfect spatiality (some positive economies of scale in space) will lead to a concave cost structure in the a-dimension.

In general, the intermediate cases with various degrees of economies of scale in the number of beneficiaries (n) and the size of the territory (a) (which includes the cases with fixed costs) seem to be most likely. We write the costs of a certain policy measure providing language rights of a certain quality to all beneficiaries as a (sufficiently differentiable) concave function $c(n, a)$, defined for $n \geq 0$ and $a \geq 0$. It is convenient to make a change in the variable, defining $\delta := n/a$, the geographical density of the minority population. The costs per beneficiary, κ, of providing the measure is then:

$$\kappa(n, \delta) = \frac{1}{n} c\left(n, \frac{n}{\delta}\right) \tag{2.1}$$

We note that κ is non-increasing in both variables. The ideal decision criterion for the policy maker is to compare κ for a jurisdiction with a minority of size n and areal density δ with an imputed benefit per beneficiary, β. We will take β to be an exogenously given political parameter.[13] If β is greater than κ, the measure is sensible, if β is smaller than κ, the measure should not be implemented.

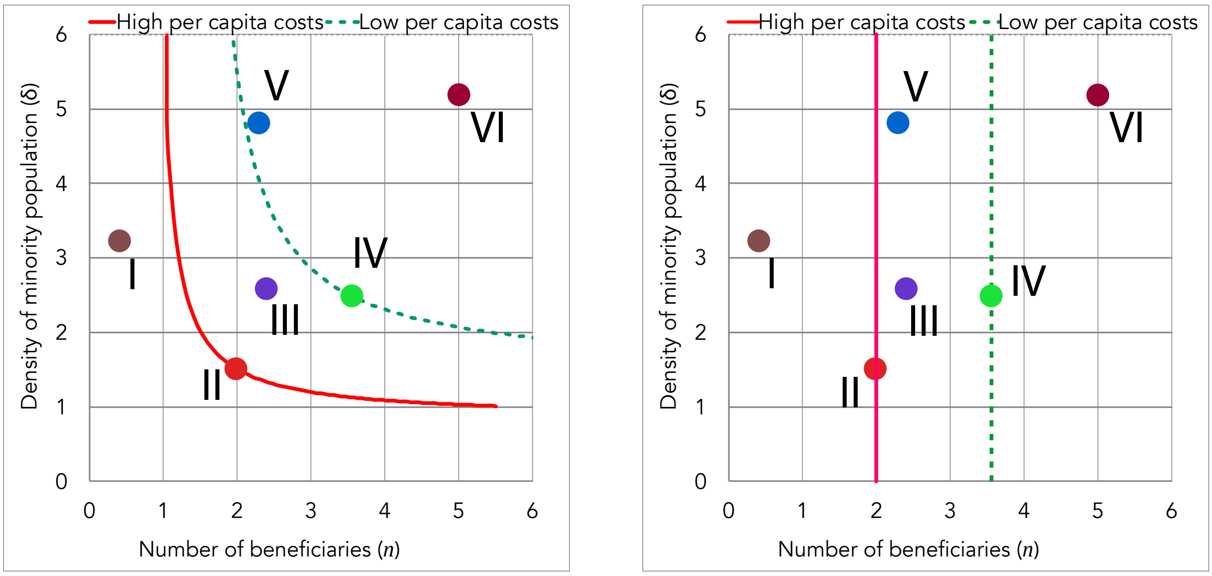
2.2 Iso-cost curves

We can represent the cost structure in a simple diagram characterizing the jurisdictions by n and δ. For each given level of costs per beneficiary, $\bar{\kappa}$, we can find a curve in the diagram separating the jurisdictions into those where the cost of the measure is higher than $\bar{\kappa}$ and those jurisdictions where the costs per beneficiary are lower than $\bar{\kappa}$, see figures 2.1. The curve dividing the jurisdictions this way we call an iso-cost curve. It can be shown that it has a non-positive slope.[14] In the

[12] For a more detailed discussion of the various types of goods resulting from language planning, see WICKSTRÖM, TEMPLIN, and GAZZOLA (2018).

[13] Ideally, of course, it should reflect the value the affected individuals attach to the measure, see WICKSTRÖM (2016), In the reality, it is a product of the political system which in the best case approximately corresponds to the propensity to pay for the measure by the average beneficiary.

[14] For a proof, see WICKSTRÖM (2020).



(a) *Spatial measure* (b) *Non-spatial measure*

FIGURE 2.1 Iso-cost curves for different policy measures

pictures there are six different jurisdictions with different demographic compositions as far as the minority population is concerned, numbered I to VI. The costs per beneficiary of two different measures are compared. in figure 2.1a, a (partially) spatial and (partially) rival measure (the costs depend on both n and a) is depicted, and in figure 2.1b, a non-spatial and (partially) rival measure (the costs depend only on n) is illustrated. For the spatial measure, the implementation of the measure brings the highest per-beneficiary costs in jurisdiction I, followed by Jurisdictions II, III, IV, V. and VI, in that order. For the non-spatial measure, the highest per-beneficiary costs are in Jurisdiction I, followed by II, III, V, IV, and VI, in that order.

2.3 DECISION RULES

A rational policy maker, who is willing to allocate a certain *per capita* budget to a minority, would look for a simple decision rule that is easy to administer and that approximates the relevant iso-cost curve. In the case of the non-spatial measure, such a rule suggests itself; whether to implement the measure in a jurisdiction depends only on the numeric strength of the minority. The rule would be a critical value n^*, such that the measure be implemented in the jurisdiction if the size of the minority population in the jurisdiction exceeds n^*. In the case of a spatial measure, there is no such easy rule, but a good approximation would be a combination of two critical values, n^*, δ^*, that both have to be met in order for the measure to be implemented. Given that the policy maker is prepared to spend enough to cover the costs in jurisdiction IV, a generous rule would be $n^* = 2, \delta^* = 2$. Then the measure would be implemented in jurisdictions III, IV, V, and VI. In IV, V, and VI this is according to the intentions of the policy maker, but in III the per-beneficiary costs would be higher than the policy maker desires. A less generous rule would be $n^* = 2.5, \delta^* = 2.5$. In that case the measure would be implemented in jurisdictions IV and VI but not in jurisdiction V where the costs per beneficiary are lower than in jurisdiction IV. As a matter of fact, in our simple example there is no simple rule based on critical values of n and δ that would lead to a perfect result for the policy maker. Either if the measure is to be implemented in jurisdictions IV, V, and VI, it will also be implemented in jurisdiction III or if it is not to be implemented in jurisdiction III, it will also fail to be implemented in either jurisdiction IV or V. Either a more complicated rule is necessary or there will be some errors.

This is an example of a phenomenon that occurs often in real-world situations. There is a trade-off between the administrative simplicity of implementation (simple and transparent rules) and targeted optimal outcomes. The use of the percentage rule, however, makes this much worse, producing absurd results.

3 THE PERCENTAGE CRITERION

As we saw above, many countries apply a percentage criterion for granting minority rights. We will show, that this can lead to absurd results, since the criterion has very different implications in urban and rural areas. It implies a critical value δ^* of the spatial density of the minority population and ignores the numerical size of the minority. However, the critical value of the density is different in different jurisdictions depending on the total population density of the jurisdiction.

Denoting the percentage of the minority population by π and the total size of the population in the area under consideration by N, we find $\pi = n/N$. If $\Delta := N/a$ is the total population density in the jurisdiction, we find:

$$\delta = \frac{n}{a} = \frac{n}{a}\frac{N}{N} = \frac{n}{N}\frac{N}{a} = \pi\Delta \tag{3.1}$$

A given percentage requirement π^* implies a critical value of the density of the beneficiaries δ^C:

$$\delta^C = \pi^*\Delta \tag{3.2}$$

Δ varies and is higher in urban areas than in rural areas, $\Delta^U > \Delta^R$. Hence, for a given percentage criterion π^*, also the critical value of δ, δ^*, is higher in an urban than in a rural area, $\delta^U > \delta^R$. That is, the rule is more generous to a rural minority than to an urban population. Since in modern

județ	size (a)	number of inhabitants (N)	number of Hungarian speakers (n)	percent Hungarian speakers (π)	density of Hungarian speakers (δ)
Cluj-Napoca/ Kolozsvár	6 674	691 106	102 966	14.9	15.43
Sălaj/Szilágy	3 864	224 384	50 928	22.7	13.18

Table 3.1 Comparison of two jurisdictions in Transylvania (the size a is in km^2 and δ in individuals per km^2)
Source: Own calculations in Wickström (2020) based on the 2011 census, Institutul national de statistică (2011)

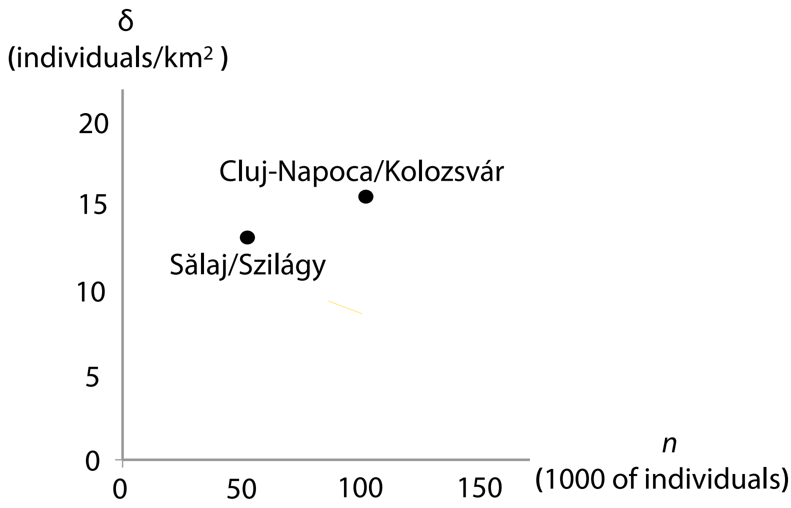


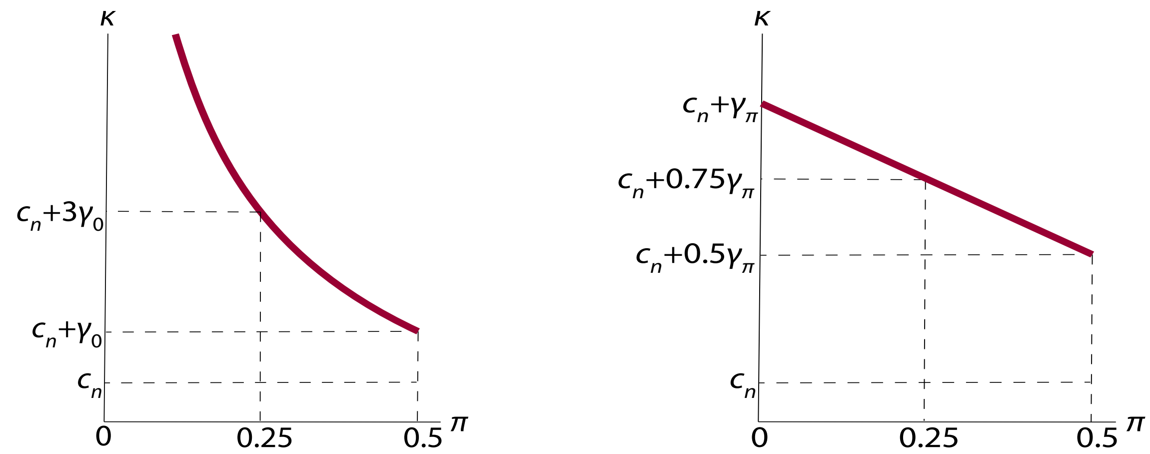
FIGURE 3.1 The characteristics of the Hungarian minority in two jurisdictions in Transylvania

urbanized societies a large proportion of the population – also of the minority population – lives in urban areas, the percentage rule, although formally "neutral" will in many cases deny minority rights to many members of the minority. In figure 2.1 let jurisdictions I, II, III, and IV be rural with total population density of $\Delta = 15$ and jurisdictions V and VI be urban with population density $\Delta = 30$. A 20%-rule ($\pi^* = 0.2$) will then imply a rural critical value $\delta^R = 3$ and an urban one $\delta^U = 6$. The only jurisdiction with minority rights according to this percentage rule would be jurisdiction I, where the costs per beneficiary is the highest – an absurd result!

It is not difficult to find real-life examples of such implementations. In WICKSTRÖM (2020) it is shown that the 20% rule used in Romania leads to exactly this result. In the biggest city in the region *Nord-Vest* in Transylvania, Cluj-Napoca/Kolozsvár, the considerable Hungarian minority does not make the 20% hurdle necessary to be granted some minority rights. The considerably smaller and less densely populated neighboring *județ* Sălaj/Szilágy, however, is granted rights, since the 20% hurdle is surpassed. The relevant numbers are found in table 3.1 and is illustrated in figure 3.1. Language-policy measures in Sălaj/Szilágy clearly cause higher costs per beneficiary than in Cluj-Napoca/Kolozsvár, The only rational conclusion to be drawn from this, is that a Hungarian speaker in Cluj-Napoca/Kolozsvár has a lower value than a Hungarian speaker in Sălaj/Szilágy in the eyes of the policy maker. If the evaluation of the policy maker is to be based on the preferences of the population, we have to look for a rational explanation in the political system.

4 RATIONALIZING THE PERCENTAGE RULE

The requirement that the costs per beneficiary of a policy measure depend only on the relative size of the minority puts some severe restrictions on the cost function $c(n, a)$ and necessitates the consideration of some other (external) additional costs. The social costs must differ from the direct implementation costs. If there are no externalities caused by the measure, that is, if



(a) *Constant propensity to discriminate* (b) *Increasing propensity to discriminate*

FIGURE 4.1 Social costs per beneficiary with discrimination

only the direct costs of provision matter, then those costs per beneficiary, $c(n,a)/n$, have to be a function of the fraction of the total population belonging to the minority, $n/N =: \pi$, only:

$$\kappa = \frac{c(n,a)}{n} = \frac{c(N\pi,a)}{N\pi} \equiv f(\pi) \tag{4.1}$$

In the appendix it is shown that this implies that c be written as $c(n,a) = c_n n$ with c_n an arbitrary positive constant.

Hence, the only direct cost function compatible with the percentage rule is a rival one with constant average costs. This is a good description of the costs associated with the direct (written or oral) communication with authorities in your preferred language, an important case. On the other hand, it means that many relevant cases are incompatible with a percentage rule, such as all spatial measures (social services in the minority language, for instance) and all not perfectly rival ones such as public signs or official documents in the minority language, which both are perfectly non-rival. To approximate the cost structure of such measures, the percentage rule would be irrelevant.

However, the implied cost function provides no condition on the relative size of the minority. The cost-benefit analysis gives a positive recommendation if the average costs c_n are smaller than the associated imputed benefit per beneficiary and a negative recommendation in the opposite case. Only if the provision of rights to the minority causes an externality, does this change. That is, if in addition to the minority population, also the majority population is affected by the measure. Let each member of the majority perceive a loss on average equal to $\gamma(\pi)$ due to the introduction of the policy measure benefiting the members of a minority of relative size π. The total loss perceived is then $\gamma(\pi)(N-n)$ and the costs per beneficiary can be written:

$$\kappa = \frac{1}{n}\left[c_n n + \gamma(\pi)(N-n)\right] = c_n + \gamma(\pi)\frac{1-\pi}{\pi} \tag{4.2}$$

Here, the external social costs per beneficiary depend on the relative size of the minority, as well as on the direct costs of provision and on the average propensity to discriminate felt by the members of the majority. If the members of the majority are more inclined to discriminate against big minorities rather than against small ones, γ is an increasing function of π. If they are equally inclined to discriminate any member of a minority, γ is constant. In figure 4.1 we have pictured the social costs of providing a language policy measure as a function of the size of the minority benefiting from the measure for the case of equal discrimination, $\gamma = \gamma_0$ and the case of increasing intolerance with the relative size of the minority, $\gamma = \gamma_\pi \pi$. The per-beneficiary social costs are in the two cases:

$$\kappa(\pi) = c_n + \gamma_0 \frac{1-\pi}{\pi} \tag{4.3}$$

and

$$\kappa(\pi) = c_n + \gamma_\pi(1-\pi) \tag{4.4}$$

respectively.

The size of the externality, $\gamma(\pi)(1-\pi)/\pi$, can be interpreted as the aversion to an individual of the minority depending on the relative size of the minority. The policy maker deciding on a policy measure will compare this aversion added to the direct per-beneficiary implementation costs with the imputed value of the measure to the average member of the minority and decide on the implementation if the imputed value is higher than the combined direct and aversion cost. Since the costs decrease with the relative size of the minority, a critical value π^* will divide the jurisdictions between those where the measure should be implemented (those with π bigger than π^*) and those where it should not be implemented (those with π smaller than π^*).[15]

Summing up, the percentage rule is a sensible decision rule under two conditions. First, the planning measure has to be perfectly rival and non-spatial. Second, the majority must be inclined to discriminate against the minority. In cases where the majority has no preferences for discrimination, the percentage rule will treat different members of the minority in a discriminatory manner, favoring minorities in rural areas in comparison to minorities in urban areas.

5 CONCLUSIONS

Minority rights are omnipresent in the academic discourse about ethnic and linguistic minorities. Clear definitions of such rights, however, do not abound, nor of policy instruments. On the contrary, the discussion and definitions are often nebulous and imprecise. This results in many *ad hoc* regulations that have their basis in interest groups and other particular interests. This also leads to unquestioned acceptance of rules like the percentage rule. The results of minority policies are rarely tested against clear objectively observable criteria.

An objective analysis of various policy measures and their costs – as well as their effects – is a *sine qua non* for a sustained, transparent, and goal-oriented minority policy – like any other public policy.[16] It is not enough to know what we want; we must also understand how

[15] Formally, we can not exclude the possibility of γ being negative. That is, the majority has preferences for preserving a minority. In this case the social costs would be below the direct implementation costs and the curves would increase in the relative size of the minority. If a measure is sensible in a jurisdiction with a minority making up a certain fraction of the population, it would also be sensible in any jurisdiction where the minority makes up a smaller fraction of the population. The critical value of π would be an upper limit.

[16] Imagine that bridges were projected and built using the same type of imprecise concepts – we would cross most rivers swimming!

different instruments function in relation to the goals and – in a world of limited resources – which policy measures are cost efficient in attaining the goals. Such an analysis will also guide us in choosing administratively functioning rules that are both manageable and purposeful. In this essay we have demonstrated that the percentage rule in most cases is not an adequate candidate for administrative use. It is only adequate for some special types of policy measures and then under the condition that the policy maker wants to discriminate the minority. Unfortunately, there are many other policy instruments that are equally inadequate.

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APPENDIX

A PROOF OF THE IMPLICATIONS OF CONDITION 4.1

We want to show that the identity

$$\frac{1}{N}c(n,a) \equiv f\left(\frac{n}{N}\right) \tag{A.1}$$

with f some differentiable function implies that

$$c(n,a) = c_n n \tag{A.2}$$

with c_n a constant. There are three independent positive variables, N, n, and a. We transfer them into three other independent positive variables, $\frac{n}{N} = \pi$, N, and a. Expression A.1 then becomes:

$$c\left(N\pi, a\right) \equiv Nf(\pi) \tag{A.3}$$

It is obvious that c has to be independent of a. Differentiation with respect to N gives us:

$$\frac{\partial c}{\partial (N\pi)}\pi = f(\pi) = \frac{1}{N}c(N\pi, \cdot) \tag{A.4}$$

or:

$$\frac{\frac{\partial c}{\partial (N\pi)}}{c(N\pi,\cdot)} = \frac{1}{N\pi} \tag{A.5}$$

Integration of A.5 yields:

$$\ln(c(N\pi,\cdot)) = \ln(N\pi) + C \tag{A.6}$$

with C an arbitrary constant or

$$c(N\pi,\cdot)) = c_n N\pi \tag{A.7}$$

with c_n an arbitrary non-negative constant. ■