Abstract: According to the European Union’s (EU’s) principle of subsidiarity, responsibilities of any kind should always be allocated to the lowest level possible. When applying this to the EU’s economic union, one might assume that the decentralization of trading structures as well as the ensuring of national economic freedoms are basic necessities for a reliable implementation of the concept of subsidiarity. Nevertheless, with view to the sustained enlargement of the European Single Market, it seems that the centralization of trading structures has not lost its attractiveness yet. The permanent progress in European trade integration raises the important question whether there may be some optimal degree of economic integration in the sense of subsidiarity and, if so, how this optimal level of integration might be determined. Answers to this burning issue will be of fundamental importance for future European policy making. As long as it is not clear-cut whether the principle of subsidiarity is of an integrationist or a more anti-integrationist nature regarding deeper trade integration, an adequate implementation of the subsidiarity principle appears impossible for policymakers at both the national and the European level.

Keywords: European Trade Integration, Subsidiarity, Centralization, Decentralization, Optimal Integration Level
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1 Introduction

In Maastricht we laid the foundation-stone for the completion of the European Union. The European Union Treaty introduces a new and decisive stage in the process of European Union, which within a few years will lead to the creation of what the founding fathers dreamed of after the last war: the United States of Europe.

German Chancellor Helmut Kohl, April 1992.

If not the completion of the European Union in the sense proposed by Helmut Kohl above, the integration progress that has been made throughout the last two decades certainly represents a big step towards what might eventually resemble the 'United States of Europe'. With the Maastricht Treaty coming into force on 1 November 1993, the foundations for the establishment of today's European Union were laid.

In this context, one general and highly important principle of action for the EU is the concept of subsidiarity. As stipulated in the preamble and Article 5(3) of the Treaty on European Union (Official Journal of the European Union 2008: 18), "the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level. To put it in a nutshell, in case there is joint competence, responsibilities of any kind should always be allocated to the lowest level reasonable, i.e. able to operate efficiently.

When linking the principle of subsidiarity to the permanent progress in European trade integration, the question arises whether there might exist an optimal degree of economic integration in the sense of subsidiarity and, if so, how this optimal level of integration might be determined. Since the EU's tendency towards trade centralization clearly contradicts the concept of subsidiarity, it is not clear-cut whether this principle is of an integrationist or a more anti-integrationist nature regarding deeper trade integration. Therefore, an adequate
implementation of the subsidiarity principle appears impossible for policymakers at both the national and the European level.

Against the background of ambiguity concerning the principle of subsidiarity and trade integration, the paper at hand provides a careful assessment of the optimal level of economic unification in the EU. More precisely, it focuses on the following issues. First, having in mind the ongoing enlargement of the European Union, the related trade centralization in the Single Market and the subsidiarity principle insisting on decentralization wherever applicable, does there even exist an optimal level of economic unity? Second, what does an optimal level of trade integration, i.e. an optimal mixture between economic freedom and harmonized regulation look like in light of the principle of subsidiarity?

To answer the above questions adequately, the research will examine the net gains of two different types of trade agreements, namely bilateral trade agreements (BTAs) and multilateral trade agreements (MTAs) as a proxy for the effectiveness of trade integration. BTAs will stand for more decentralized trading structures as proposed by the subsidiarity principle while MTAs will represent more centralized trading structures as promoted by the European Single Market. The functional relationship between the mentioned net gains and the export volume revenues, in turn depending on the magnitude of trade negotiation costs, will be formally and graphically analyzed on the basis of aggregated utility functions, distinguishing between bilateral and multilateral trade agreements respectively.

According to Karacaoglu and Liu (2008: 300), there does only exist consensus on the desirability of MTAs, but not on the attractiveness of BTAs. This provides a first hint at the fact that the possible advantages of BTAs have not been given too much consideration so far. In order to carefully assess the optimal level of a European nation's trade integration based on the fundamentals of the subsidiarity principle, the paper is structured as follows. Section 2 reviews the principle of subsidiarity and its causal interdependencies with aspects of economic freedom as well as harmonized regulation. Afterwards, section 3.1 concentrates on the theoretical framework subject to the applied model, while section 3.2 provides an
analysis of different levels of European trade integration and assesses an optimal integration strategy. The concluding remarks of this paper are given in section 4.

2 The Mixed Blessings of Subsidiarity

In its very literal meaning, the principle of subsidiarity is aimed to regulate the exertion of powers in the European Union. It is intended to determine whether the Union can take action or should leave a particular matter to the member states. At large, the subsidiarity principle is based on the idea that decisions must be taken as closely to the citizen as possible. In other words, the Union should not undertake action unless EU action is more effective than action taken by the member states at the national, regional or local level. The only exceptions to this principle are matters for which the Union has the sole responsibility (Eurofound 2010).

Since its official introduction in the 1992 Maastricht Treaty under Article 3b Section 5, the principle of subsidiarity is commonly agreed to be fundamental to the proper design of the Union as well as to the political legitimacy of its powers and joint actions (Pelkmans 2006: 249). Nevertheless, almost two decades after its introduction, the application of the subsidiarity principle leaves ample scope for interpretations. Not only have attempts for its 'real-world' implementation been at least minimal (Pelkmans 2006: 250). In specific areas of research it has actually been characterized to be a legally 'empty' and in some ways even dangerous principle (e.g. Dehousse 1992: 10, Estella de Noriega 2002: 177, Pelkmans 2005: 4), especially since some observers fear a serious threat to hard-won achievements (e.g. Toth 1992: 1105).

A general consensus on specific and reliable levels of subsidiarity for the different policy areas of the European Union has not been found yet. According to Ederveen, Gelauf and Pelkmans (2008: 20), "the principle of subsidiarity is neutral about the optimal degree of

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1 Please note that the paper at hand attempts to combine the political and economic perception of the principle of subsidiarity. For an exclusively judicial examination please see e.g. Calabresi, S. G. & Bickford, L. D. 2011, “Federalism and Subsidiarity: Perspectives from Law”, Northwestern Law & Econ Research Paper, No. 12-12.
centralization." In line with this argumentation, Van den Bergh (1994) recommends not to neglect the principle’s effects on economic welfare when assessing its function as a policy guideline. Having this in mind, Begg (2008) argues that subsidiarity does not necessarily imply the delegation of power to the lowest level possible, but instead involves a careful assessment of the optimal level of decision-making, being it in form of centralization or decentralization. (Though this interpretation of subsidiarity slightly differs from the legal term provided in the Treaty on European Union, it nevertheless has its raison d’être. In his research, Begg (2008) figures out that there do always exist proper arguments for either or both of the EU and member state levels to take appropriate measures. Accordingly, he suggests that “a more nuanced approach is needed” (Begg 2008: 308).

To test for applicable levels of subsidiarity in the various fields of policy, Pelkmans (2006) developed a functional four-stage subsidiarity test, highlighting the costs and benefits of a respectively relevant degree of centralization. Though of great importance for future political decision-making, the Pelkmans test has not attracted much ‘real-world’ attention so far. Hence, in many areas of research, the matter concerning the integrationist or anti-integrationist nature of subsidiarity remains unanswered.

As already proposed by Dehousse (1992: 388), the most appropriate way to summarize the EU's current situation still is to speak of the principle of ‘dual subsidiarity’, i.e. subsidiarity with respect to economic integration in the Single Market and subsidiarity with regard to national regulatory policies. Ever since the first vague ideas about a European common market in the 1950s and 1960s, emphasis was placed on the economic perspective, focusing on market integration, the removal of trade barriers and enhanced product regulation. In contrast to this tendency towards economic centralization, many of the attached fields of regulatory policy were - and still are - considered to fall within the remit of each single member state. Though this fragmentation or decentralization of powers conforms to the principle of subsidiarity, it is not surprising that the combination of fragmented political powers and integrated economic markets does not fit at all and, thus, complicates the finding of a viable European consensus. However, since the EU's 'four freedoms', i.e. the free movement
of people, goods, services and capital are said to be the cornerstone of the Single Market, they seem to prevail over regulatory policies in cases of conflict (Dehousse 1992: 394). Hence, one possibly has to adjust the principle of subsidiarity to the requirements of economic integration rather than the other way around.

Overall, referring to Schäfer (2006: 246 f.) there seems to exist an economic trade-off between optimal consumer satisfaction when having decentralized structures and economies of scale when having centralized production channels. Generally speaking, the EU's welfare effects gained by the implementation of the principle of subsidiarity appear to trade off those gained by economic integration in the Single Market. Having in mind the prevalence of the latter, one should assume that deeper trade integration is reasonable in any case and, consequently, that the concept of subsidiarity is of a more integrationist nature. But is this really the case regarding trade integration in the European Single Market? Or does there also exist evidence for an anti-integrationist approach in the principle of subsidiarity? These are, inter alia, two aspects analyzed formally and graphically in the following.

3 Subsidiarity and the Optimal Level of Trade Integration: An Analysis

3.1 The Theoretical Framework
From the perspective of an individual open economy which is intensively involved in European trade flows on the one hand, yet in many areas a proponent of the principle of subsidiarity, the following important question arises: How may increases in domestic welfare be obtained through foreign concessions which open up new markets for domestic export commodities, without neglecting the principle of subsidiarity too much? To answer the above questions adequately, the following assumptions (A1-A6) are made:2

**AI** The analysis applies to an economy that is assumed to be already integrated in the European Single Market to some extent. However, there still remains potential to eliminate any existing trade barriers.

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2 This section is partly based on the assumptions made by Knies and Gilroy (1991).
A2 New export markets always require the implementation of additional bilateral trade agreements (BTAs) or multilateral trade arrangements (MTAs) that, in turn, require unanimous agreement.

A3 The monitoring of existing agreements is achieved by usage of economic sanctions. Trade barriers that have been eliminated cannot be simply replaced (e.g. tariffs by non-tariff barriers).

A4 Nations are fundamentally willing to open their domestic markets to European trade based upon the principal of reciprocity, which should result in net gains. For purposes of simplification terms-of-trade effects are disregarded.

A5 The success of the negotiation rounds depends solely upon the amount of compromises that are to be judged upon given a social utility function containing the arguments: security, stability, distribution, as well as further political and social goals. We abstract from Arrow's (1950) Impossibility Theorem of a social welfare function.

A6 The reigning politicians desire to maximize social welfare in order to raise their popularity and chances of re-election. An increase in the degree of integration of an observed country within the European economy is interpreted in the following manner: the degree of integration is reflected in the amount of returns yielded under a given European trade agreement, taking into account possible concessions necessary (which may be of both an objective or subjective nature) as well as the potential occurrence of effective costs of negotiation.

As mentioned earlier, BTAs will stand for more decentralized trading structures as proposed by the subsidiarity principle while MTAs will represent more centralized trading structures as promoted by the European Single Market. The functional relationship between the net gains of more liberalized free trade flows ($G$) and the export volume revenues ($E$), in turn depending on the magnitude of trade negotiation costs ($N$), may be expressed in the following domestic aggregated utility function (respectively, for the foreign countries):

$$G_b = f(E) = f[g_b(N)], b = b, m,$$

whereby the index $b$ designates bilateral and $m$ multilateral trade agreements.
Central to our line of argument is the assumption that $G_b(N)$ and $G_{mt}(N)$ may be differentiated upon in the following manner: the original hypothetical autarky situation in which negotiation costs are zero ($N=0$) is characterized by $N_b^0(U) = N_{mt}^0(U) = 0$. Multilateral negotiations, e.g. within the original EC rounds, at first permit large gains from increasingly liberalized trade under relatively small costs of negotiation, since the first "open door" policy is assumed to be largely unproblematic. However, as markets become integrated it becomes increasingly difficult at a multilateral level to obtain a consensus of opinion since the bargaining nations are characterized by different stages of development and politically active rent-seeking interest groups. Obtaining increasing levels of integration, both economically and politically, becomes increasingly difficult. Rent-seeking activities in highly sensitive domestic areas, such as agriculture or services, prohibit the general acceptance of any willingness to compromise. Due to the increased level of integration, the costs of negotiation rise enormously and distributional issues emerge.

Assuming a hypothetical autarky scenario, bilateral negotiations are characterized by relatively small benefits per unit of negotiation costs spent. This appears to be common in historical periods of low European integration where average costs of negotiation were quite high. The potential growth of benefits, however, diminishes at an increasingly lower rate. This is due to the fact that specific economic interest groups may now search and find potential contract partners offering positive expected chances of negotiation success. They no longer are committed to deal simultaneously with countries that offer low potential benefits but at the same time demand a comparatively large amount of concessions. Equation (1) thus exhibits the following characteristics:

$$f^* = \frac{\partial G_{mt}}{\partial g_{mt}} = \frac{\partial G_b}{\partial g_b} > 0$$

$$f'' = \frac{\partial^2 G_{mt}}{\partial g_{mt}^2} = \frac{\partial^2 G_b}{\partial g_b^2} > 0.$$  

Given the relationship between net trade gains ($G$) and export revenues ($E$), it does not matter as such whether the revenues are obtained under bilateral or multilateral agreements.
With regard to our discussion, the second derivatives play a secondary role. However, the marginal payoffs of multilateral negotiations decrease more than under bilateral negotiations, therefore:

\[ (3) \frac{\partial \tilde{G}_i}{\partial N} > 0 \quad \text{and} \quad \frac{\partial^2 \tilde{G}_i}{\partial N^2} < 0 \quad \text{for} \ i = b, mc \]

\[ (4) \frac{\partial^2 G_2}{\partial N^2} > \frac{\partial^2 G_{MB}}{\partial N^2} \quad \text{for all} \ N. \]

Given \( N = 0 \) and remembering the above mentioned arguments, thus

\[ (5) \frac{\partial G_{MB} (N = N^*)}{\partial N} > \frac{\partial G_2 (N = N^*)}{\partial N}, \]

so that there must exist an optimal level of negotiation costs \( (N^*) \) for which

\[ (6) \frac{\partial G_{MB} (N = N^*)}{\partial N} = \frac{\partial G_2 (N = N^*)}{\partial N} \]

is valid. Furthermore, there exists a negotiation intensity fulfilling the equation:

\[ (7) G_{MB} (N = N^{**} = N^*) \]

### 3.2 Determining the Optimal Level of European Trade Integration

The above explained relationships are illustrated in Figure 1, assuming a linear relationship between the volume of exports \( E \) and the gains from trade \( G \) such that \( j = 0 \) for all \( E \).

Examining Figure 1, the marginal yields at \( N^* \) from BTAs are equivalent to those obtainable under MTAs but the degree of absolute integration is less. From the point \( N^* \) onwards, the marginal yields of BTAs per additional unit of negotiation cost are always greater than those for MTAs. Of course, the average yields from BTAs up to the point \( N^{**} \) (which corresponds to the degree of integration \( j^{**} \) are smaller than those given MTAs.)
If the observed country attempts to exploit the larger marginal yields from BTAs while simultaneously respecting already existing MTAs, then a transition from A to B given a reduced volume of exports is not possible due to assumption (A3). However, a transition from A to C is indeed possible, whereby despite the increased intensity of negotiations the export volume stagnates. If we measure the degree of integration with the export quota, then we should even expect it to sink given an increasing GNI growth rate. Elimination of assumption 3 permits a country to make the transition from A to B, e.g. by the introduction of non-tariff barriers to trade which were as of yet not explicitly dealt with in MTAs. Such a strategy would even result in a reduction of the level of global integration. Imaginable is also a transitory strategy mix such as a movement from point A to point D. The maximum degree of integration for our observed economy is $N^{MAX}$, the point at which all trade barriers have been eliminated.
In order to determine the optimal amount of negotiation costs (which is nothing other than the optimal degree of integration) within our model structure, one must calculate the net benefits from trade. Therefore, one has to take into consideration the zero-profit line that is the geographical location of all points for which $G = N$ is valid. For each of both curves, the optimal magnitude of negotiation costs is obtained when the related net gains are maximized. This is the case when the following two conditions are fulfilled: (1) the respective curve lies above the zero-profit line and (2) the distance between the zero-profit line and the BTA or MTA curve is at its greatest. An example for such a cost-benefit analysis is obtained graphically in Figures 2 and 3.

Which of both strategies, BTA or MTA, offers a higher yield is now characterized by the slope of the zero-profit line. In the underlying model, a larger slope indicates smaller net gains for the same amount of negotiation costs compared to the net gains of a smaller slope. As graphically shown in Figure 2, if the slope $\alpha$ is relatively large and (in this case) identical with both marginal yields at $N^*$, then the maximal net yield given MTAs is characterized by the distance $AE$ and for BTAs by the distance $BE$. Due to the fact that the distance $AE$ obtained by MTAs is greater than the distance $BE$ achieved by BTAs, the negotiating country should invest the whole available amount of negotiation cost $N^*$ in MTAs. This would offer a higher level of integration and a higher net yield $G^*_{m^*}$. 

On the other hand, as illustrated in Figure 3, if the slope $\alpha$ of a negotiating country's zero-profit line is relatively small, then the maximal net yield given MTAs is characterized by the distance $KL$ and for BTAs $IJ$. Since it is now the distance $IJ$ obtained by BTAs that is greater than the distance $KL$ achieved by MTAs, the negotiating country should invest the whole available amount of negotiation cost $N_2^E$ in BTAs. This would offer a higher level of integration and a higher net yield $G^E_2$. 
When examining the negotiating economies in both figures, it is observed that the degree of integration under BTAs will always be greater than under MTAs, provided that the slope of the zero-profit line $\alpha$ is smaller than tangent $\beta$ (see figure 3). Given BTAs, the theoretical optimum corresponds with the maximum of the $G_2(N)$-curve, i.e. by $N_{\text{MAX}}$. Of course, in case tangent $\beta$ is smaller than tangent $\alpha$ (see figure 2), the optimal level of integration is given under MTAs. Anyway, under a MTA, the maximal degree of integration is always given by $G_{m_{\text{MAX}}}$ which corresponds with the optimal negotiation costs $N_{m_{\text{MAX}}}$. This is reasonable because any further increase in the magnitude of negotiation costs $N$ would only result in stagnating trade gains and smaller net yields. Altogether, one can state that as long as the tangent $\alpha$ is larger than the tangents of both curves ($\tan \beta$), MTAs offer the higher yield. If tangent $\alpha$ is, however, smaller than tangent $\beta$, then BTAs are preferable.
To sum up, according to the above analysis, there well seems to exist an optimal level of economic integration for the single European Union member countries. This optimum is mainly determined by two major aspects; these are the slope of the zero-profit line and the available amount of negotiation costs. As long as the slope of the zero-profit line is relatively large and the available magnitude of negotiation costs is comparatively small, the negotiating economy should decide to deepen trade integration by means of further multilateral trade agreements. On the contrary, when being confronted with a relatively small slope of the zero-profit line and when the available magnitude of negotiation costs is comparatively large, the EU member state should decide not to deepen trade integration too much but should rather concentrate on exclusive bilateral trade agreements.

Moreover, since the underlying analysis suggests that deeper trade integration in the EU is not reasonable in any case, one might conclude that there does exist an optimal level of trade integration from the perspective of the principle of subsidiarity. Therefore, this principle is not necessarily of an integrationist nature but might also occupy an anti-integrationist approach. Overall, the findings indicate that the EU's tendency towards an ever growing Single Market and an increasingly centralized trading structure does not only contradict the principle of subsidiarity but also reduces the aggregate gains from trade.

4 Concluding Remarks

We investigated the existence of an optimal degree of European trade integration by means of a formal and graphical analysis of the functional relationship between a negotiating economy's net gains and export volume revenues, being a proxy for the effectiveness of trade integration and depending on the magnitude of trade negotiation costs. This analysis was based on aggregated utility functions, distinguishing between bilateral and multilateral trade agreements respectively. In sum, the analytical results support the following two important conclusions.
First of all, consistent with prior findings (see e.g. Dehousse 1992), the results provide evidence for the idea of 'dual subsidiarity', meaning subsidiarity with respect to economic integration in the Single Market and subsidiarity with regard to national regulatory policies. Generally speaking, even with the smallest amount of negotiation costs, the EU might realize high net gains when enlarging its trade union via multilateral trade agreements. Therefore, one could state that while the policy field should mainly remain in the hands of the single member states, the tendency towards trade centralization should be furthered in order to enhance the EU's overall welfare.

Second, although economic aspects seem to prevail, the involved adjustment of the principle of subsidiarity to the requirements of economic integration should not be conducted until infinity. In contrast to the assumptions made by Schäfer (2006), deeper trade integration is not reasonable in every case. As predicted by our analytical model, there does exist an amount of negotiation costs that serves as a border for the effectiveness of further multilateral integration and, therewith, for the modification of the concept of subsidiarity.\(^3\)

Altogether, both the EU's single member states as well as the union-leveled policymakers should not neglect the issue that the principle of subsidiarity cannot only be regarded in black or white terms. In fact, this concept might well be of an integrationist nature with view to deeper trade integration if the related net gains are proportionate to the required amount of negotiation costs. Of course, in case the latter condition is not met adequately, an anti-integrationist manner of the principle of subsidiarity is conceivable, at least from the economic perspective. However, the paper at hand only provides a first theoretical approach with view to the principle of 'dual subsidiarity'. For future research, it will therefore be very useful to develop a comprehensive analytical study that might also provide empirical evidence for the arguments outlined above.

\(^3\) In line with the results achieved by Saggi and Yildiz (2011: 372), there might even exist circumstances under which MTAs can only be obtained as an equilibrium if countries are free to form BTAs as well.
References


