How to leave the Eurozone: The case of Finland[1]

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Abstract

This article provides thoughts and guidelines on how a country could exit from the Economic and Monetary Union (EMU) and its currency the euro. We take the hypothetical exit of Finland as a concrete example. Although there is a way out of the euro for Finland and other member countries, exit would not be easy, nor would its short-term costs be known beforehand with any clear margin.

[1] Authors wish to thank James Galbraith, Laura Jernström, Päivi Leino-Sandberg, Hans-Werner Sinn and several experts who asked not to be named for insightful comments and suggestions. Any errors remaining are the responsibility of the authors. We have not received any financial compensation from any political party or group.

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We find the lack of a domestic payments system and uncertainty concerning the redenomination costs to be the biggest risks associated with the cost of Finland's exit. Still, the costs of Finland's exit need not be very large, around 10 billion euros in the best-case scenario, but we also acknowledge a very costly scenario for the exit. Any member country considering exit from the euro should weigh the short-term costs of an exit against the possible long-run benefits of having a domestic currency.

Keywords: Eurozone, payment system, domestic currency, exchange rate

JEL codes: E61, F45, H12

1. Introduction

After the Greek crisis in the Summer of 2015, it has been silently acknowledged that a country can abandon the euro. But how would an exit from the Eurozone proceed, what would it cost and from where would the costs originate? Currently, there is no clear answer to any of these questions. Galbraith (2016), who led a small team that prepared a contingency plan in case Greece was forced out of the Eurozone, describes the general guidelines of *Grexit*. Stiglitz (2016) proposes several ways countries can manage their internal and external balances during and after a euro exit and discusses the monetary and financial dimensions of an exit. Meyer (2012) sketches scenarios for disintegration of the euro and uses Greece and Germany as examples. Adding to these important contributions, this paper takes a more detailed view on unilateral withdrawal from the euro, concentrating on the legal, payment system-related and economic challenges such a major policy shift would require.

We present the general guidelines for an exit by any euro-country but concentrate on the details of the exit process and its costs for Finland. This is for two reasons. First, the authors have first-hand insights on Finnish society and the economy. Second, the deep integration of Finland into the common financial structure of the Eurozone makes her exit exceptionally challenging. As financial integration progresses in the Eurozone, the problems Finland would face in an exit would eventually be shared by all member countries if they decided to leave the Eurozone at some point. Finland is therefore a benchmark case. We also need to emphasize that we do not advocate or discourage the exit of Finland or any other country from the Eurozone since this is a political decision that can only be addressed through the political process.[3]

The euro system has efficiently succeeded in concentrating the payment, clearing and settlement structures, which are the basis of a modern economy and its financial system. In other areas, particularly those of economic stabilization and growth, the EMU countries have had persistent problems with the implementation of structural measures, e.g., improving economic structures, and fiscal and other economic policies. Productivity and competitive differences have in some cases even increased (see, e.g., the harmonized competitiveness indicators of the ECB).[4] The divergence in competitiveness and productivity combined with *asymmetric shocks* (economic crises and recessions) have led to the dissolution of many monetary unions (Estrin and Urga 1997, Fidrmuc, Horvath and Fidrmuc 1999, Einaudi 2000). These differences could be compensated with continuous annual income transfers from more successful member countries, but in the EMU, this would violate the Article 125 Treaty of the Functioning of the EU (TFEU) banning mutual fiscal responsibility.

[3] Our views on the longer-term economic implications of euro membership have been presented elsewhere (see, e.g., EuroThinkTank 2014).

[4] https://www.ecb.europa.eu/stats/services/escb/html/table.en.html?id=JDF_EXR_HCI_ULCT.

A change in the TFEU would be needed to proceed into deeper integration allowing, for example, income transfers between member countries. It is unlikely that it would gain public support in all member countries (King 2016), including Finland.[5] Unwillingness to proceed into further political integration has, in addition to wars, probably been the number one reason for the dissolution of monetary unions (Bordo and Jonung 1999, Einaudi 2000). In the Eurozone, this could lead to a situation where some countries proceed to deeper integration and others return to their respective domestic currencies. A new economic crisis of either a systematic or unsystematic nature could also put severe strains on the economically weaker members of the Eurozone in particular. Any number of sudden and often unforeseen developments could lead to a situation where one or more countries are faced with a rather binary choice between economic and/or political catastrophe and euro exit. Such uncertainties validate the need for the research presented herein.

The rest of this paper is organized as follows. In the second section, we go through the general issues of euro exit applying to all countries. In Section 3, we focus on the euro exit path for Finland. In Section 4, we try to assess Finland's euro exit costs. In Section 5, we provide some general views on how countries might prepare themselves for the unlikely but not impossible scenario of euro exit, and Section 6 concludes.

2. How to leave the Eurozone

In general terms, there are four ways out of the euro, which apply to all member countries:

1. Dissolution of the euro
2. Division of the euro into two or more groups

[5] Avoidance of permanent income transfers can also be considered as some form of political imperative in the Eurozone.

3. Exiting simultaneously with other countries
4. Unilateral voluntary exit from the euro[6]

If the euro were to be completely dismantled, all member countries would naturally be forced to re-adopt their own currencies in a reversal of the original process that created the euro in the 1990s.[7] The euro area could also be divided into two (for example Northern vs. Southern countries) or more groups, each with its own common currency (see, e.g., Stiglitz 2016). A group of countries could exit the common currency, simultaneously returning to their respective national currencies, or a country could opt to make a unilateral withdrawal.

A jointly agreed secession from the euro area could allow the present payments and stability arrangement to continue to function, supervised at the European level by the European Central Bank (ECB), European commission, the European parliament and the European Banking Authority (EBA). In case a multi-speed EU develops, one could imagine specific scenarios in which the euro area jointly agrees to and manages a split-up, allowing any member to adopt the exchange rate regime they wish. This could be done by changing existing EU Treaties to allow exits with mutual consent or through mutual political agreements among member states.

If exits are not jointly agreed upon, the implications are likely to be different. Countries and country groups sufficiently large to destabilize the EU are likely to be provided with the option of continued access to joint systems. Small countries may not be offered such terms, particularly if lessons need to be taught to dissuade followers. This leads to the most challenging and costly form of exit: unilateral withdrawal. Many of its challenges, including issues with the payment system and the re-denomination of contracts (debts, etc.) to the new currency, could be managed or at least

[6] The alternative of exclusion from the euro zone is not discussed since the circumstances of such an alternative are likely to be very different from the others.

[7] See Malinen and Miettinen in their 2015 ECUXIT article for one proposal (http://en.eurothinktank.fi/?p=102)

diminished in a mutually agreed exit. When such an option is not available, the exiting country may need to rely on different temporary and make-shift measures to run its economy while making a robust case for exit both economically and legally.

2.1 The ways out of the euro

The EU is based on a huge number of legal documents. Proposed changes to institutions, procedures or substance regularly include references to the legal basis and are themselves formulated in legal terms. The ability and will to argue in legal terms is an important and normal feature of EU negotiations at the level of civil servants.

However, unless member states are willing to submit to a particular legal interpretation, there is in practice no way to implement it. In the EU, even more than in individual member states, laws and regulations are only ways to express the present political will of member states. If circumstances change sufficiently, either the interpretation of the laws or the laws themselves will change.

Legal arguments or constraints will thus not prevent any member nation from exiting the euro, but they can cause problems in the transition period.[8] If the case for exit is politically strong enough, legal issues will prove in large part irrelevant, and decisions will be conducted on a political level. However, a country looking to exit may also face stubborn resistance from other member states. Because of this and as an effort to mitigate possible retaliation, it will be preferable for the exiting country to link the exit to a generally accepted cause.

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[8] For example, in the case of Greece and possible *Grexit*, the legal ramifications were never fully clarified, but they were not seen as an obstacle to an exit (Galbraith 2016). It was the view of the group preparing for the contingency plan for Greece that the “irrevocability” would need to be settled in the European courts. If the European Commission agreed with the exit, it would not appeal the decision to the European Court of Justice (ECJ), cementing national jurisdiction over the currency regime.

There are three international and/or EU law arguments that could be put forward as a valid reason for a unilateral exit from the euro area:

1. National emergency
2. Other force majeure
3. A change or violation of the Acts of the Treaties and/or principles of the Eurozone.

In the case of a national emergency (wars, epidemics, economic crises), a country may at least temporarily bypass all treaties and pursue actions needed to overcome the emergency. Such measures could in some cases include establishing a national currency. Other force majeure is conceptually close to a national emergency and refers to the effects of events that are abnormal, unforeseeable and beyond the control of the country concerned (European Financial Market Lawyers Group 2003). However, recent reactions to the EU migration crisis suggest that, in practice, even strong domestic political pressures may be seen as a force majeure. Clearly, any domestic debacle would have to be rather extraordinary (e.g., serious political disruptions and an economic depression) to credibly require a change of currency in addition to more traditional economic policy measures, such as capital controls (applied in Cyprus in 2013 and Greece in 2015) or fiscal easing.

The most credible and legally viable path out of the euro for any member country of the eurozone is based on the transition of the currency union into something different than the one that member states originally joined. There is no lack of potentially critical and strategic institutional changes, which diminish the sovereignty of euro member countries. For example, turning the ESM into “the European IMF” and a rainy-day fund offering financing to countries suffering economically (see, e.g., the Five Presidents Report and the new Reflection Report) could require changes in the

Treaty and open a negotiable exit to countries not willing to proceed into tighter union. In any case, large institutional developments within the euro area are likely to provide justification for an exit.

Developments in the euro area could also lead to a situation where some of the Articles of the TFEU are breached. This could provide justification for a unilateral exit derived from the legal principle that a contract does not bind its signers if it is breached. For example, Article 125 of the TFEU states that

> "Member State shall not be liable for or assume the commitments of central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of another Member State without prejudice to mutual financial guarantees for the joint execution of a specific project."

The debates on the effects and implications of recent monetary policy measures related to this are well known (see, e.g., Nechio 2011, Jones 2016). Debt relief on the loans provided by the European Stability Mechanism (ESM) agreed by a qualified majority (85 % of the votes cast) would pose a direct threat of member states' funds not being repaid as agreed, formally breaching Article 125 TFEU. Making this assessment is the responsibility of domestic authorities, keeping in mind that there is no certainty that all member states would agree on the legal interpretation.

Also, when Germany joined the euro, her Federal Constitutional Court ruled that "If monetary union is unable to continuously develop the stability attained at the start of the third stage, it would abandon this contractual concept according to the agreed stability mandate" (Meyer 2012, p. 179, footnote 28). If the eurozone started to develop into a transfer union and thus, if "[…] government would assume that it has no change of having its interest considered adequately" (Meyer 2012, p. 180), Germany would have a constitutional mandate to leave the euro. To evaluate whether this applies to all countries of the Eurozone is beyond the legal expertise of the authors, but the decision of the Federal Constitutional Court of Germany gives an interesting benchmark on how national interest could override European treaties.

2.2. Payment systems

Regardless of the form and legal basis of an exit, a particular problem arises if a euro area member is no longer able to run an efficient payments system by itself. Joint and efficient payments systems have been developed primarily by the central banks of the European System of Central Banks as part of their mandate to manage the joint currency during the last fifteen years. In 2008, both the SEPA (private mass payments) and TARGET2 (central bank transactions) systems were started, and in 2014, they were complemented by TARGET2S (securities transactions). Both SEPA and TARGET2S accept non-euro country participants but allow payments clearing only in euros. Many euro countries still operate domestic payments systems particularly for smaller banking groups, but their use is declining because of the greater efficiency of the joint systems and the political will to use them. These integration developments are gradually making an exit both more cumbersome and costly.

2.3 Should a Eurozone member try to negotiate an exit agreement?

Negotiating with the European Central Bank (ECB), the ESCB and the European Banking Authority (EBA) might be seen as crucial for a successful and smooth exit. A country leaving the eurozone could need support from both of them to manage its foreign-exchange positions and the transition between payment systems efficiently. However, while exit could, at least in principle, be negotiated and agreed upon among member states (see Sections 2.1 and 2.2), officials should be prepared for the possibility that member states and European authorities do not provide assistance for the exiting country.

Moreover, because there is no euro exit clause in the European treaties, there is nobody to negotiate with and nothing to negotiate about at the European level (commission and parliament). This, of course, does not preclude informal discussions with European authorities, either before or after any exit decision. Still, opening any kind of negotiations with European authorities and/or member states before the formal exit decision is taken would carry at least three major risks.

First, despite a national conviction to leave the euro, there could be non-existent support for this view in the ECB, the European commission and/or among other member states. Any small country could find herself in a similar situation as Greece in the summer of 2015, when she was basically shown the door leading to an exit but with no help or support from the rest of the bloc (Galbraith 2016). In the worst case, other member states or European institutions could try to enforce continued membership through threats of political, economic or financial sanctions, including demands to leave the EU altogether. Allowing such a situation to arise could very seriously complicate the exit decision and perhaps also hurt future internal euro area relations.

Second, managing a legally binding exit process could take years. An exit clause (see Section 5) could be proposed to be added to the EU Treaties, raising the usual worries about whether unanimity could be reached. Alternatively, a unanimous agreement with all the member states of the euro area could, in principle, be negotiated (Proctor 2011), but opening such negotiations runs a risk of leaks (see below).

Third, and most importantly, it could be impossible to keep such negotiations secret. If exit negotiations took place at economically or financially sensitive times, publicity would immediately cause major capital flows and even risks of bank runs. This could force the country to enact capital controls and even temporary bank closures and TARGET2 payment restrictions on the fly, thus in fact starting the exit process in an uncontrolled manner. Other members of the bloc and especially EU leaders could also use leaks about a country's plan to exit as a sanction and/or negotiation tool.

It is the view of the authors of this paper that unless confidential negotiations are offered by the member states of the Eurozone, a unilateral withdrawal after secret preparations would be the least hazardous option. Discussions and system benchmarking with EU member states not using the euro (such as Sweden, Denmark and Poland) would also be beneficial. These measures do not, however, remove the need to discuss with the ECB and the EBA on mutually acceptable terms and conditions for the exit. It is our recommendation that such discussions commence only (immediately) after the official decision of leaving has been made and publicized because any pre-exit discussions run the risk of leaks. In any case, content and timing of discussions need to be analyzed carefully by politicians and civil servants during the preparation phase (see Section 3.4).

2.4 Could the exiting country remain in the EU?

Probably the biggest single uncertainty concerning the euro exit is the role that the exiting country would have in the EU after an exit, especially in the case of a unilateral withdrawal from the Eurozone. It is quite clear that the strong preference of any current member would be to remain a member of the European Union and to continue to honor as many of her European treaties as possible. Ideally, exit would affect only treaties that control the coinage, monetary policy and role of the central bank of the exiting country including any agreements it has with the euro system central banks or other infrastructure providers.

Legally, there is no clause in European treaties allowing the expulsion of a country from the EU or the EMU (Athanassiou 2009). The treaties only allow for a suspension of some of the rights of a member state, like the voting right in the Council. In this sense, there are no obstacles for an exiting country to remain as a member of the EU even after leaving the EMU. To what extent other treaty provisions would be used to effectively create a *de facto* exclusion of an exiting country through political isolation would be a political decision taken by all other members of the EU and the European courts (Galbraith 2016).

Realistically and judging from the public discussion surrounding the Brexit case, calls will inevitably be made for the EU to ensure that the exit should have consequences that dissuade other members from similar actions. Whether such calls will carry the day will depend on what kind of union its members wish the EU to be. So, concerning the continuation of EU-membership after a euro withdrawal, a definite answer cannot be given *ex-ante*.

3. Exiting the euro: the case of Finland

The most serious issue affecting Finland's options in a fast-track exit is that her systems have been almost fully integrated into the euro payment and clearing systems. Finland was actually among the first countries to fully integrate into the joint euro system. Its own retail payments system (PMJ) was discontinued in 2014, and the large-value payments system (POPS) is expected to follow suit soon. Because domestic systems have been all but eliminated, with the POPS system going off-line in the near future, exiting the euro would pose a threat of severe payment system failures, greatly increasing the costs of a Finland exit (for more detailed explanation on the development of the European-wide payment and clearing systems, see Appendix 1). Responsible authorities as well as private banks have, somewhat surprisingly, at least implicitly decided to minimize Finland's ability to counter any disturbance in the euro payments system from any source.

Recreating a functional and safe payment system from scratch takes time, likely more than a year. During this period, Finland would either:

1) need to establish capital controls and operate existing euro payment systems and euros through a mutually agreed transitional period (exit through negotiations);
2) need to operate an existing payment system and use the currency of another country (probably Sweden or Denmark since two of three major Finnish banks are headquartered there); or
3) establish capital controls and introduce a new national currency, recreating a new payments system while simultaneously operating temporary and by necessity inefficient temporary measures.

Exit through mutual agreement among member states would bear many of the risks listed in Section 2.3. Secrecy of preparations would be paramount, but this could be hard to accomplish. Even if every member state of the Eurozone agreed that Finland needed to leave the bloc, any leaks from the negotiations could start capital outflows and, in the worst case, a run on Finland's banks. This could force Finland into an uncontrolled exit with very high costs, as explained in Section 2.3.

Use of a third-country currency system would be effective only after it had been fully adapted by all domestic banks, something that would require a considerable amount of time and effort. In addition, if the currency of a neighboring country were to be used, the Finnish bank headquartered there could enjoy a major competitive advantage. Furthermore, since any currency has to have a lender of last resort, the central bank of the currency to be used would have to agree to extend its arrangements to Finland, while the Finnish authorities would have to accept the consequences of its monetary policy and compensation for its services. In practice, Finland's monetary policy would be set by a foreign central bank.

Therefore, it is the view of the authors that the most functional way for Finland to leave the Eurozone would be through establishing capital controls and creating a new payment system while operating some temporary system based on the new domestic currency, the new markka (from now on NM).[9] If Finland could re-establish a functional domestic back-up payment system before any exit, using as an argument the eminently sensible (and truthful) need for national economic security, temporary economic inefficiencies could be substantially reduced.

The three fundamental questions regarding the costs and feasibility of an exit from a currency union as laid out in Malinen *et al.* (2016), which will guide our analysis on the exit of Finland, are:

1. Can the exiting country guarantee the functioning of the payment system during the transition and can it re-establish an independent central bank?
2. Is economic and political retaliation on the part of the remaining MU countries and/or authorities likely and can it be effectively countered?
3. Can banks (financial sector), companies and government entities in the exiting country remain liquid and solvent during the adjustment period?

We will discuss each of these in turn.

[9] Capital controls are needed especially if NM is expected to depreciate against other major currencies. With appreciation, capital outflows are less likely as is the need to control them.

3.1 Money and the financial system

Based on the above, the main obstacle for Finland's exit is to do with handling the stress it causes in her financial systems. This includes controlling the change in payment systems, foreign exchange market and the operations of the Bank of Finland (BoF) initiated by the euro-exit.

3.1.1 Cash and the payment system

Although Finland by now lacks a domestic system for bank clearing with the exception of POPS (see Appendix I), she has two important advantages that reduce the implications of this for an exit. First, Finland has relatively few banks, and 90 % of all retail payments are handled by the three largest banks (Co-operative banking group OKO, Sweden-headquartered Nordea and Denmark-headquartered Danske Bank). Second, a vast majority (over 80 %) of retail payments are made using either cards or digital payment systems.[10] Currently, the joint venture of Finnish banks, Automatia, is further pushing the reduction of cash via the banks agreeing to a mobile pay standard Siirto. This means that a large part of retail payments are internal to banks and do not need an interbank clearing system, though they do need to be redenominated into the NM. Efforts could be made to temporarily make the share of internal bank payments even greater than at present.

An exit by Finland would need to be supported by strict capital controls,[11] and they should be implemented immediately after the exit decision by the Parliament or, if needed, during the planning

[10] In 2015, approximately 80 % of daily consumer goods were paid using some other form of payment than cash (Takala 2015). See, also, Leinonen 2007 and FFI 2008.

[11] If NM was expected to appreciate against major currencies, capital controls might not be needed.

stage to control the outflow of capital and deposits.[12] After the parliamentary decision to issue the new national currency as the legal tender in Finland, all banks and financial institutions would be legally obliged to convert all their account euros into the new currency at an exchange rate of 1:1. This would take a considerable amount of time based on the information we received, from some months to possibly over a year.[13] However, this problem could be significantly alleviated at the national level by capital controls, under which all foreign payments would need to conform to rules established by the Bank of Finland. Payments could be handled by commercial banks, but they would be subject to checks and possible sanctions by the BoF and the Financial Supervisory Authority.[14] Payments would be converted to foreign currency according to the current NM related exchange rate. Finland could thus operate euro-denominated systems domestically and convert foreign payments in the border until accounts had been redenominated to NM (currency code FIM).

Foreign exchange markets will immediately move the euro value of the new currency away from the initial conversion rate. Since legal foreign in- and out-going payments, including asset movements, must be approved by the Bank of Finland during the temporary control regime, the BoF will have a substantial impact on the exchange rate. During this time, the primary goal of the BoF should be an exchange rate that equalizes accepted in- and outflows of foreign currency and thus keeps foreign reserves stable. Since the short-term variance of currency flows may be large, the BoF needs to be ready to temporarily intervene in the exchange market even in the absence of an exchange target.[15]

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[12] Capital controls are permitted under article 59 of the EU treaties, although it is not clear whether the ECB would be required to approve capital controls under a national currency (Galbraith 2016).

[13] In Greece, this was assumed to take a few weeks.

[14] IBAN codes could be used to separate Finnish originated payments from the rest. Currency accounts would probably need to be identified separately.

[15] Including (some) import and export of capital among accepted foreign exchange transactions ensures that private expectations and perceived quality of policy impact the exchange rate. Deciding which types of capital transactions to allow will not be easy and should be one of the main issues addressed in the preparatory work prior to the exit decision. Since at least initially transactions related to arbitrage and to changing currency exposure are likely to be

To ease any possible initial foreign exchange liquidity shortage, authorities could consider indicating that the management of the NM would eventually largely reflect the monetary policies of Sweden. Her economy resembles that of Finland, and the decision to follow their lead would give a clear indication of what is to come to the markets. To ensure convertibility, the Bank of Finland will have to establish and retain a foreign exchange reserve backed by a system of swap agreements with other friendly central banks.[16]

Capital controls would affect all Finnish accounts in domestic foreign-owned banks (including Nordea and Danske). Such accounts can be identified through their IBAN codes, and payments from them would be subject to strict and strictly supervised rules issued by the Bank of Finland. They would be denominated in NM, and any payments into them would be converted according to the existing exchange rate.[17] Capital controls would naturally cause a lag for foreign payments, but delays could be suppressed by allocating sufficient staff to oversee the foreign payments requests.

New bank notes would need to be ordered immediately after the parliamentary decision. The issuance of new notes will take some time even when initially cutting corners (uniqueness of design, competition procedures, testing the new notes, etc.). In the meantime, cash payments could be handled by foreign currency notes (acquired from relevant central banks, likely the euro) or by using other stamped alternative currency notes.[18] With the euro notes, there would be two alternatives.

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disallowed, the effect of expectations on the exchange rate will be reduced. Rapid progress in establishing the new currency and its payments system reduces both the extent and duration of the resulting market distortions.

[16] As long as Finland has a positive TARGET position, this could after repayment (suggested by the ECB to be necessary in the case of Greece) become the basis for the national foreign exchange reserve.

[17] Forex accounts would cause additional burden for the authorities because they would have Finnish IBAN code, but different currency. However, separating them should not prove to be major task.

[18] If the new national currency was likely to initially depreciate against other currencies, cash euros would be withdrawn from circulation because companies and private individuals would not want to exchange their money for a currency that is worth less (Gresham's law). Euros could leave circulation also for emotional or prudential reasons. Because of this, bank holidays would need to be implemented after the parliamentary decision to leave the Eurozone.

They could be stamped provided the ECB is willing to sell the requested selection of notes to the BoF. In any case, the portion of cash notes, which are the property of Finland through the capital of the ECB, could possibly be stamped without (plausible) objections from the ECB (see, also, Meyer 2012). Under capital controls and with a 1:1 exchange rate between the euro and NM, it could also be possible to conduct the cash payments using existing euro notes and applying, whenever necessary, the current NM exchange rate. The actual conversion would happen only in the border with the foreign payments. There would be no need to hoard cash, and euro notes would hold their nominal value after NM cash was available.

Market participants are also likely to use initiative in reducing the inconvenience of temporarily absent currency notes (e.g., digital payments and barter). Also, expanded (even agent-to-agent) credit arrangements (IOU:s) and the issuance of temporary scrip could be used if needed. Hologram stamps, relatively easy to order prior to the exit decision, are not easy to forge and would improve the security of such makeshift measures. To avoid unlimited misuse of scrip issuance, issuance should ideally be subject to permission by the authorities and allowed only for non-financial companies.

Issuing new notes and/or stamping may create various logistical problems.[19] Because modern cash dispensers need to recognize the bills, they need to be reprogrammed to disperse the notes. This is likely to require some weeks. In the meantime, other forms of disbursing cash to the public, even using tellers in bank offices, would need to be resorted to. In addition to commercial banks, retailers, post offices, or other private and public agents can be used to disperse the newly printed notes to citizens and firms. In any case, providing sufficient numbers of physical currency to consumers and companies right after the exit will be a monumental task, which needs to be planned carefully.

[19] Many banks of Finland currently lack vaults, which would hinder the possibility of running the payment system purely on cash or at least increase its logistic costs.

Encouraging the use of electronic payments methods even further, for instance through fee changes or developing mobile payments, would reduce many problems related to the use of currency notes or their substitutes.

During the construction of new retail and large value payment and clearing systems, the Finnish public, both households and companies, should be encouraged to open accounts in several banks to enable internal bank clearing to increase even further. Bank cooperation with retailers in the rural parts of the country should make possible minimal banking services and cash or credit dispensation there, something that is already legally possible.

The BoF should provide all the support it can muster to the creation and functioning of this temporary system and, at the very minimum, provide clearing credit to all concerned parties while the large-scale settlement system is being built. If intra-bank clearing at some time requires the physical transfer of funds (in the antediluvian form of checks), this could be achieved at very little cost.[20]

Creating and operating a payments system, including one suited for securities transactions, is one of the primary functions of the private banks and Euroclear Finland. It is part of the service they routinely sell to their customers, and it is very much in their own interest that this service be efficient and uninterrupted. Operational payments system expertise exists primarily in the private banks or in institutions linked to them. The central bank will offer primarily interbank settlement services and ensure that new systems are properly tested and reliable. Recreating a functioning payments system after exit will nevertheless primarily be a task falling on the private banks, likely enough speeded up

[20] In principle, all that is required is a few large checks, armored cars and a few heavily armed guards, e.g., from the Special Forces of the Police.

by legal decrees and incentives and support from proper authorities with some public financial support.[21]

3.1.2 The "new" Bank of Finland

One of the key issues in the exit process is ensuring that a national central bank may start working effectively as soon as the political decision on exit has been taken. It would be a great advantage if the existing central bank, the Bank of Finland (BoF), could continue its work also after a change of currency. The BoF is currently a nominal "owner" and in practice a subordinate of the ECB and implements locally the centrally agreed monetary policy decisions. It participates in the policy planning and payments systems development of the ECB and applies the agreed criteria in its domestic market and bank operations.[22]

The legal basis for the BoF after an exit would be the reintroduction of the main parts of the parliamentary "Act of the Bank of Finland" which was scrapped in 1998 [HE6/1998]. The new Act would place the BoF under the nominal supervision of the Parliament of Finland and reduce its membership status in the European System of Central Banks (ESCB) to the level of a member not using euros such as Sweden. Since Finland would continue as a member of the EU, the BoF would be independent when fulfilling its mandate as required in the TFEU. The Act would establish the new currency, state the functions and tasks to be fulfilled by the BoF, provide the general capacities to fulfill its functions and state the main objectives of central bank policy.[23]

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[21] This is currently hindered by the fact that currently there is no co-operation body between the major banks operating in Finland. Therefore, a more strict guidance from proper authorities may be required.

[22] The tradition of conforming to existing laws and regulations is particularly strong in Finland and certainly not discernably less strong among BoF employees. The default alternative of creating a new central bank from scratch is therefore very unlikely to be needed in the Finnish case.

[23] The functions and tasks of the Bank of Finland could broadly remain the same as at present and do not need further discussion here. Some of them, like capital controls and other exceptional measures, would need cooperation with the fiscal authorities and could therefore be specified more closely in other Acts. The same applies to the Financial Supervision Authority, closely linked to the central bank and presently part of the euro banking union supervisory arm.

Most importantly, the intermittent wish of Finnish authorities to rigidly fix the exchange rate to other currencies (the dollar, ecu, euro) or currency indices should, in the case of exit, be carefully avoided. Historical national experience as well as theoretical considerations strongly argue against a fixed-rate system for Finland (EuroThinkTank 2014). Even then, however, alternatives abound. As the inflation-linked policy of the ECB has shown, initially simple mandated goals may over time unilaterally be strongly bent and expanded by an exceptionally independent central bank. Otherwise, the BoF could follow broadly similar principles as the Riksbanken of Sweden without necessarily committing to this publicly. This would gradually position Finland as one of the Nordic countries in financial markets dealings.

Conforming the Act to the TFEU requirements would also not pose major problems (see Appendix II for the full text of the Articles). The TFEU requires that the BoF not provide any credit facilities to the public sector (Article 123), that the BoF not take instructions from the government or any other body (Article 130) and that all BoF-related legislation be compatible with the Treaties and the statutes of the ESCB and ECB (Article 131). Regarding government financing, Finland could, if needed, avail itself of the same mechanism used by the ECB in its quantitative easing (QE). By acquiring domestic bonds on the market, the central bank would not break the funding ban (Article 123). Though taking instructions is forbidden, this does not preclude requiring the BoF to inform the government or discuss specific issues with it (Article 130). While the practical implementation of the very general Article 131 may be challenging in unforeseeable ways, the only obvious breach of the Article is the unavoidable failure to apply statutes relating to the euro.

The Bank of Finland has over time acquired net claims on the rest of the euro system's central banks (as of March 2017, some 65 billion euros of TARGET2 receivables). This has been the result primarily of funds inflows from other member states because Finland's current account has remained in minor deficit since 2011. Some of this fairly massive surplus (30% of GDP) is also attributable to

Nordic banks holding euro accounts for their Swedish, Danish and Norwegian customers. Though these balances are likely to change rapidly if (relative) confidence in the peripheral economies of the Eurozone returns, it is in principle an asset that could be used to settle any euro payments needs vs. other countries after exit. Recognition of this, of course, requires agreement on this also from the other central banks of the euro system.[24]

3.2 The possibility of retaliation

It is beyond the scope of this discourse as well as the expertise of its authors to assess how an exit of Finland from the euro might be viewed in the EU and in the Eurosystem and in the ECB. Still, some general comments are in order.

The ultimate willingness of the European authorities to create disincentives is likely to be influenced by the estimated costs to the union itself. In the Brexit debate, there have been some efforts to discourage other countries from leaving the Union.[25] In the Eurozone, countries with large financial systems are closely intertwined with those of remaining states. Large countries could thus expect that exit negotiations would be designed not to create a domestic financial crisis in them. Less important countries might not be able to count on this. In the case of Finland, the risk of being exposed to deliberate disincentives in such negotiations is serious. The financial system of the

[24] Before agreeing to release individual assets for exit payments, the euro system might well wish to ensure that the BoF participates in potential losses from its participation in the very extensive QE-related Asset Purchasing Program of the system (holdings on April 2017 more than 1800 billion euros). Under this program, the BoF has so far acquired some 21 billion of Finnish government bonds as well as 15 billion of other eligible assets. However, it may be argued that the BoF also should remain responsible for any losses accruing from the purchases of all the other marketable securities by euro system central banks. If so, the TARGET2 balance may not be made fully available very soon.

[25] See, e.g., https://www.theguardian.com/world/2016/jan/25/uk-should-be-punished-if-it-leaves-european-union-to-deter-other-exits.

country is relatively small, and if it were to experience difficulties, the euro system would not be materially affected. However, the interests of the other Nordic EU and EEA members would elevate the importance of the Finnish exit beyond her own borders.

What can be done to reduce the likelihood and expected severity of union-created disincentives? Two strategies come to mind: increasing the cost of disincentives to the union and reducing support within the union for strong disincentives. While economic costs to the union cannot be increased, political costs possibly may. Union measures could be privately and publicly analyzed as undemocratic and illegitimate. Support for them within the union could be reduced by canvassing for allies and by demonstrating that exit is the only and economically viable alternative for Finland in the current situation. If other Eurozone members are simultaneously considering an exit, support for Finland’s exit will almost certainly exist. The non-euro members of EU can also be supportive of a new EU member sharing their arrangements within the EU. Documenting the reasons for exit may also affect the likelihood of retaliation.

What remains unclear is whether the Eurozone authorities are willing and legally entitled to impose EU-related rather than Eurozone-specific hardships on an exiting country. If a country exiting the Eurozone also faced exclusion from the European Single Market, for instance, disincentives could become prohibitive. The European Court of Justice should in such cases be asked to assess whether such practices are legally allowed. The problem is that it may take years for the ECJ to reach a decision on this issue. In any case, present initiatives to develop a multi-speed EU may, under ideal scenarios, affect both the acceptability of exit and the need for retaliation.

3.3 Debt and solvency of Finland's institutions

3.3.1 Banking sector

The Finnish banking system is presently low-risk, and the overall indebtedness level in Finland is still moderate.[26] Two major banks operating in Finland, Nordea and Danske Bank, are currently under the supervision of Swedish and Danish authorities, respectively. This eases the burden of Finnish authorities. According to Statistics Finland, the total balance sheet of the Finnish banking sector was 426 billion euros as of the end of 2016, classified as commercial banks (347 billion), co-operative banks (68 billion) and savings banks (11 billion), which collectively hold equity of 26 billion euros. A large part of their assets consists of loans made to domestic companies and households as well as holdings of foreign bonds and loans. Less than one per cent of the loans are non-performing, in contrast with Greece and Italy where about 40 per cent and 18 per cent of the loans are non-performing.

As of March 2017, according to the Bank of Finland, Finnish households held 94.3 billion euros of mortgage debt, 14.7 billion euros of consumer debt and 16.4 billion euros of miscellaneous debt. The loan to disposable income ratio is still low in international comparison, but growing rapidly. Most of this loan stock is governed by Finnish law and can therefore be a candidate for instant redenomination to NM under *lex monetae*. In cases where both parties of the contract law and the judicial court are Finnish, converting liabilities from euros to the NM should not raise any problems (Proctor 2011, Nordvig 2014). However, when either the law or the court are not Finnish,

[26] In the end of the third quarter of 2016, the latest data available, Finland's gross external debt stood at 466 billion euros. The outstanding gross exposure of general government was 102.4 billion. Finland is exceptional in the euro area in that a large part of its financial markets is served by foreign banks or their subsidiaries. At present, however, Nordea Bank is considering relocating its main office from Stockholm to, reportedly, either Copenhagen or Helsinki.

redenomination might become somewhat problematic and will normally have to be settled one way or the other by the debtor and the creditor(s). In these cases, redenomination will ultimately be a matter of political scrutiny and judgement, which may require a settlement in European courts and/or courts of the countries concerned (Proctor 2011, Glynn-Jones and Pryor 2015, Galbraith 2016, Malinen *et al.* 2016). Some of the contracts with Nordic banks are under Danish and Swedish law, but because the nexus of the contracts lies in Finland, not in Sweden or in Denmark, the courts would be likely to subject them to the *lex monetate* of Finland (see, e.g., Proctor 2011, Malinen *et al.* 2016). The banks may also prefer NM conversion, as insisting on repayments on MU currency would force the banks to maintain dual accounts for their clients, one in MU and one in NM currencies. These risks need to be acknowledged and mitigated, if politically possible.[27]

A similar situation exists for deposits. As of March 2017, a total of 149 billion euros of deposits were held and classified as follows: 85 billion households, 33 billion corporations, 14 billion financial sector and 17 billion central and local government. These are also likely subject to instant redenomination. Thus, household financial balances would not normally be affected by the exit since both deposits and domestic loans would be redenominated to the new markka.

3.3.2 Solvency of the government

According to the State Treasury, the Finnish government held a gross debt position of 110 billion as of Q4 2016. All of the debt is under Finnish law and consists of Finnish jurisdiction

[27] A peculiar feature of the Finnish banking system is that banks have negotiated loan contracts where they have the right to request accelerated repayment and termination in conditions similar to force major stemming from systematic risk, although these terminations can be challenged in courts. The easiest way to eliminate the uncertainty relating to this would be to change legislation erasing the ability of banks to terminate loans.

bonds.[28] In the past, the Government of Finland has raised foreign currency bonds (USD, GBP, SEK, NOK), but as of May 2017, there is currently outstanding only one short-term USD borrowing. Therefore, the funding of the Finnish government relies on the rolling of approximately 20 euro-denominated bonds, all under Finnish law and the Finnish court dispute resolution mechanism. This means that most likely the bonds could be redenominated to be payable in the new national currency (see previous section). However, around 45.5 billion of these bonds carry so-called collective action clauses (CAC), which require creditor acceptance of any redenomination, which would probably have to be paid in their respective currencies.

According to Statistics Finland, the Finnish municipalities held a further 17 billion of debt, mostly raised through the Municipality Finance institution, in the end of 2016. There the fundraising is diverse, with the majority of the funds raised in currencies other than euros.[29] Social security funds held around 2 billion euros of debt.

A unique and important feature of Finland is the fairly robust state of the statutory earnings-related occupational pension insurance, which is the backbone of the Finnish pension system. It is partially a pay-as-you-go (PAYGO) financed pension benefits system, but also partly funded. Currently, both the annual pension contributions and payments equal roughly 25 billion euros, and the pension fund is about 188 billion euros (at the end of 2016) and mainly invested outside Finland. Many other Eurozone countries have a much lower funding portion or even rely completely on a PAYGO-system. The large portion of non-Finnish assets in the pension system is definitely a confidence-increasing element for the Finnish economy. Indeed, some of the funds from international

[28] See the State Treasury: http://www.statetreasury.fi/en-US/Government_debt_and_finances.

[29] The derivative positions converting the exposure to euros need to be addressed in a same way as those for the Finnish government foreign currency borrowing.

investments could even be reallocated to Finland if really needed, which could be considered a temporary measure to support possible public sector conversion costs.

Even after an exit from the euro area, it is likely that Finland would be able to borrow abroad at a reasonably low rate of interest, particularly if public expenditures are restrained and exports are stimulated by the exit. In the extreme case, the interest rate of Finland's government bonds could even fall if investors were to see exit not only as growth-inducing but also as a withdrawal from pending future joint-liability mechanisms, such as ESM, EFSF and even eventual mutually guaranteed eurobonds and income transfers within a federation (EuroThinkTank 2014). However, to ensure a positive outcome on the financing front, the Finnish government should make every effort to ensure the financial markets that Finland is committed to responsible fiscal and monetary policies.

3.3.3 Corporations

According to Statistics Finland, the Finnish corporations and housing cooperatives had 201 billion euros of debt and 34 billion of bonds at the end of 2016. Most of the debt is under Finnish law and can be redenominated to the new national currency. However, a significant portion (around 58 billion euros) is under, e.g., English or Swedish law, and the courts of these countries may want to approve redenomination to the new national currency instead of moving the nexus of contracts to a different Eurozone country still using euros. Some risk remains, however, if the new national currency depreciated after the exit against the euro and other major currencies.

There is currently no comprehensive database on the derivative exposure of Finnish corporations. Although derivative contracts are likely to net out at the national level, because corporations tend to hedge both assets and liabilities, regulators should acknowledge the possibility of large sector- or firm-level losses in the case of currency denomination and depreciation (Nordvig 2014).

3.4 Issues of public governance

The issues of public governance, or technical preconditions, of a successful exit described in Malinen *et al.* (2016), are:

1. Government needs to have and retain strong political backing for the exit in the parliament (clear majority).
2. Exit preparations (preliminary planning) need to be conducted in secrecy within the government and parliament.
3. Government needs to be able to rapidly prepare and implement any required changes in laws and regulations.

These requirements are clearly relevant also for Finland. Below, we touch on some issues that may be specific and interesting for the Finnish case.

3.4.1 Political backing

There is little that the authors can or need to say about exactly what kind of political backing is necessary and sufficient for a euro exit. This would require unrealistically detailed assumptions not only about Finnish political behavior but also about the economic and political situation in other countries of the euro area. Some comments may nevertheless be relevant.

Because of the secrecy involved (see the next Section) and the profound nature of the decisions to be taken, support would need to be very strong from all or a vast majority of parties in parliament. History shows this to be possible in Finland, though not particularly usual or easy, especially during times of exceptional crisis.[30] It is presently quite unclear whether Finnish politicians view the growing pressures for federal developments in the euro area as sufficiently alarming or even credible. If such developments were to manifest, the political landscape in Finland could change quickly. The threat that a federal euro union could pose to the Finnish welfare state and the simultaneously increased joint liabilities and risks could change the political mood, if properly reported. Renewed emergence of financial or economic instability, if sufficiently intense, might also affect such a change.

3.4.2 Exit preparations

The question of secrecy is paramount when preparing far-reaching monetary and financial changes. A euro exit will, like any expected change in the exchange rate, have a large economic impact on various groups, who will thus act immediately when even vaguely informed. Any preparations will therefore have to be either strictly confidential or, if revealed, e.g., through a referendum, conducted behind a wall of capital controls. So, the choice in preparations becomes secrecy vs. capital controls.

In Finland, a workable concept would be to conduct initial planning in a small group of senior civil service staff. Such a group could request limited assistance from those in the financial

[30] During the markka period Finnish authorities, usually the Bank of Finland with some contact to political decision makers and the Ministry of Finance, prepared and conducted a number of devaluations without experiencing major leaks of information. Similarly, during the banking crisis several institutions (primarily the Bank of Finland, the Ministry of Finance and the Government Guarantee Fund) cooperated in preparing and implementing bank bail-ins, closures, mergers and sales without experiencing serious information leaks.

community with experience of cooperation with the authorities on regular peace-time crisis contingency planning. Parts of the exercise could rather easily be construed as aspects of authorities' normal crisis management, implying that private financial expertise to some extent could be utilized even at an early stage.

Preliminary planning would need to concentrate on four main issues. First, the economic and political consequences of exit need to be evaluated, creating a base for later public communications as well as negotiations. Second, initial assessments of ways to immediately replace the financial functions that exit will make unavailable, concentrating on the payments and clearing system as well as means to ensure the liquidity of domestic banks. Third, a preliminary draft of legal changes needed as well as drafting initial measures to be taken including capital controls, cash provision and possible bilateral currency swap arrangements with amenable countries. And fourth, a list of issues to preferably agree with various eurozone authorities in order to achieve as amenable an exit as possible. These would include the handling of the TARGET2 surplus, foreign exchange swap-lines and the usage of euro-nominated payment systems in a way described in Section 3.1 during the transition.

The preliminary planning described above does not require any concrete desire or plans to exit the euro area. It can, indeed should, preferably be conducted as part of the normal contingency policy planning of government ministries. The need for secrecy remains, however, to avoid creating speculation and political embarrassment.

If, for some reason, authorities decide to take the matter to general public discussion and referendum, additional preparations would be in order. In this option, all preliminary planning would also need to be ready, after which officially sanctioned discussions could begin and the call for a referendum could be issued. At the same time, capital controls would need to be enacted. The referendum should preferably be planned so that Finland could exit immediately after the results were available. Banks would close and parliament would be ready to make a decision immediately after the referendum result was known. It should be noted that a referendum would make it practically impossible to control currency speculation around an exit, and it could lead to many unforeseen political and financial market developments even with capital controls. Thus, although a referendum can be viewed as the "right thing to do" following the character of democratic decision making, it can lead to chaotic and costly exit from the euro area. And, as there was no referendum on joining the euro in Finland, there is no need to have one for an exit (see below).

3.4.3 Changes in laws

Finland joined the euro through a government proposal, and there was no change in the constitution. This should make the decision to exit from the Eurozone technically easy. It would require only a change in regular laws.

Laws that require change include:

1. The Act of the Bank of Finland (as explained above, including reintroducing a role for the parliamentary Central Bank Supervisory Board)
2. The Monetary Law (specifying the currency, legal tender status, convertibility subject to government decree, etc.)
3. The Law on Financial Supervision (reasserting national responsibility for financial supervision)
4. The Law on the Crisis Management Fund
5. A large number of minor legal changes arising from the change in the previously mentioned laws

Because exit requires only a change in regular laws, Parliament could decide on the issue over-the-weekend provided that legal and other preparations are adequate and political agreement is sufficiently strong.

4. The costs and benefits of Finland's exit

The estimates on the costs of a euro exit have fluctuated wildly (see, e.g., Åslund 2012 and Variant Perception 2012). This is no surprise, as many costs are determined by judicial processes, which are basically unknown until they are realized (i.e., someone leaves the euro). In general, the costs of a regime change are attributed mainly to the economic and political turmoil that it creates (Centre for European Reform 2015). Moreover, unsustainable regimes tend to be more painful to exit, the larger the economic imbalances they have accumulated. In this section, we will provide a preliminary (and crude) estimate of the short-run costs and long-run benefits Finland could face if she were to exit the euro unilaterally.

4.1 The short-run costs

The short-run costs of an exit can be defined within two major groups: The net foreign asset position of the country and operational costs stemming from the system changes (payment and clearing, new notes, etc.) Table 1 presents Finland's net foreign exposure per sector.

Table 1. Finland's net foreign exposure per sector (end of 2016)

	Receivables	Liabilities	Net
Corporations	144.17	192.17	-48.00
BoF	49.12	12.35	36.78
Banks and financial institutions	204.39	299.34	-94.95
Money market funds	2.51	0.04	2.47
*Collective investment companies**	72.86	21.07	51.79
Other financial brokerages	29.23	38.88	-9.65
Insurance companies	28.62	0.92	27.71
Government	14.89	106.57	-91.68
Local governments	0.56	3.06	-2.50
Social security funds	133.73	2.93	130.80
Households and non-profit organizations	13.60	1.06	12.55
Total	**693.68**	**678.38**	**15.31**

* = excluding money market funds. In billions of euros. Source: Statistics Finland

Table 1 shows that at the end of 2016, Finland had a foreign net gain of about 15 billion euros, indicating that Finland has a rather strong external balance. The biggest risks of currency depreciation, unsurprisingly, lie with corporations, banks and the government, who have the largest negative foreign net positions.

To analyze how leaving the euro would affect Finland's external exposure, we need to ponder two questions. First, how big a share of debt contracts could be redenominated to NM? Second, how large and how long would the depreciation of NM be?[31] It should also be noted that the realized gains/losses depend on the maturity of foreign debt and liabilities and how the NM exchange rate moves before debts and liabilities mature. A detailed estimation of how large a share of these would be redenominated under *lex monetae* would thus require a separate study with detailed data. What we can hope to present at best is estimates, which are roughly of the correct magnitude.

It is likely that at least some of the debt contracts would be redenominated to NM. To make a reasonable guess on how this would affect Finland's external balance, we assume that the BoF and

[31] With appreciation of the NM, repayment of the foreign exchange-denominated debt would not become a major issue, because the markka-denominated value of foreign liabilities would shrink.

banks would not try to redenominate any of their foreign debts. This is to maintain a best possible relationship to foreign central banks, banks and other creditors. We also assume that none of the collective investment companies, money market funds, financial brokerages or social security funds would try to redenominate their foreign debt to NM.[32] A total of 45.5 billion euros worth of government bonds are issued under CAC (see Section 3.3.3), and we assume that those would have to be paid back in respective currencies, while the rest would be redenominated to NM. For the rest of the sectors, we assume that they will try to redenominate their foreign debts to NM. For our baseline scenario, we assume that from these debt contracts, 33 percent will be redenominated.

Table 2 presents Finland's net foreign position with 33 percent debt redenomination.

Table 2. Finland's net foreign exposure per sector, 33 % redenomination (end of 2016)	**Receivables**	**Liabilities**	**Net**
Corporations	144.17	128.75	15.42
BoF	49.12	12.35	36.77
Banks and financial institutions	204.39	299.34	-94.95
Money market funds	2.51	0.04	2.47
*Collective investment companies**	72.86	21.07	51.79
Other financial brokerages	29.23	38.88	-9.65
Insurance companies	28.62	0.62	28.00
Government	14.89	45.51	-30.62
Local governments	0.56	2.05	-1.49
Social security funds	133.73	2.93	130.80
Households and non-profit organizations	13.60	1.06	12.54
Total (billion markkas)	**693.68**	**552.60**	**141.08**

So, with 33 percent debt redenomination, Finland's net foreign position, in markkas, would change quite dramatically to the positive with a total gain of (141.08 – 15.31) 125.77 billion. But, redenomination could take a long time and, in the worst case, years. During this period, NM could appreciate and/or depreciate. It is therefore not beneficial to assume that the large gains from

[32] For social security funds, the amounts of foreign liabilities are so small that the efforts would likely be too large for the expected gains.

redenomination presented in Table 2 would help the Finnish economy during the transition. For this reason, we use the numbers presented in Table 1 to assess the instant costs/gains associated to Fixit.

To make an educated guess on short-term (about one year) costs and gains, we concentrate on the *operational* and *variable* costs. The cost of moving to a new currency will include the costs of designing and printing new bank notes and coins, redenomination of contracts, payment system reconstruction, account updates and reprinting of tariff cards and menus (Capital Economics 2014). In addition, there may be costs associated with the stamping of existing notes, changes to cash dispensers and unforeseen costs arising during the transition and depending on which temporary arrangements are eventually chosen. We refer to these as operational costs.

In addition, there are variable costs depending on the level of depreciation of the new currency. It should be noted that in the current situation, the receivables of the BoF from the ECB are considerably higher than liabilities. The biggest liabilities item of the BoF balance sheet is the euro-notes in circulation and also the euro currency notes (around 18 billion euros). As a 'rule of a thumb', whenever BoF has a TARGET2 surplus of more than about 15 billion euros,[33] it will roughly cover the value of the euro currency notes in circulation in Finland.

In the **best-case** scenario, we assume that both ECB and EBA will provide Finnish monetary authorities the support they need and that Finland will be allowed to continue as a member of the EU. We also assume that Finland's payment system continues to operate (more or less) normally under capital controls.

Based on studies by Rose (2007), Kearns and Patel (2016) and Bagnai, Granville and Ospina (2017), we assume that the effects of exit on Finland's overall economy are contained. Rose (2007)

[33] At the end of March 2017, Finland's TARGET2 balance was around 65 billion euros. However, at the end of 2016 the TARGET2 balance was only 26 billion euros.

studied the macroeconomic fluctuations around the exit of a country from a currency union.[34] He found that exits have not produced any noticeable short-term fluctuations in key economic variables, including GDP, investments and government budget. Kearns and Patel (2016) studied the distinction between trade and financial channels of exchange rate depreciation. Currency depreciation tends to lead to diminution of imports and growth of exports, but it also affects the balance sheet of a wide variety of borrowers (see Table 1 above). Kearns and Patel find that with advanced economies like Finland, the trade channel dominates, implying that costs related to balance sheet effects of currency depreciation are surpassed by the growth enhancing effects.[35] Bagnai, Granville and Ospina (2017) simulated the evolution of Italy's economy in a euroexit. In their base case simulation, real GDP per capita growth first drops 0.7 percentage points below the baseline trend due to the balance sheet effects (high external debt), with a strong recovery in the following years.[36] Based on these studies, it is plausible to assume that the effects of a euro exit on the real economic activity of Finland could be contained, holding that EU institutions are supportive of the exit (see above).

Table 3 presents our rough estimates on the gross short-term costs of a Fixit in the **best-case** scenario with 5 % and 15 % rates of depreciation of NM after the exit.

[34] Rose (2007) used data on 69 countries or territorial entities that exited from a currency union between 1946 and 2005.

[35] See, also, Céspedes (2005).

[36] See, also, Kohn, Leibovici and Szkup (2017) for a study on the effect of balance sheet effects in small open economies in large devaluations.

Table 3. Short-run costs of Finland's exit (best-case)

Variables costs		
Depreciation:	**5 %**	**15 %**
Corporations	-2.40	-7.20
BoF	1.84	5.52
Banks and financial institutions	-4.75	-14.24
Money market funds	0.12	0.37
*Collective investment companies**	2.59	7.77
Other financial brokerages	-0.48	-1.45
Insurance companies	1.39	4.16
Government	-4.58	-13.75
Local governments	-0.13	-0.38
Social security funds	6.54	19.62
Households and non-profit organizations	0.63	1.88
Total variable costs (billion euros)	0.77	2.3
Operational costs		
Currency:		
Planning production and adapting distribution channels, including ATMs	*-6.00*	*-6.00*
Payment systems		
Creating domestic payment systems (domestic banks and the BoF)	*-3.00*	*-3.00*
Unforeseen costs	*-2.00*	*-2.00*
Operational cost total (billion euros)	-11.00	-11.00
Total short-run costs in billion euros	**-10.23**	**-8.7**

Based on the numbers presented in Table 3, the short-term costs of Fixit would fluctuate around 9-11 billion euros/markkas in our **best-case** scenario. However, a considerably more negative outcome could also be possible.

Euro area authorities may be less than helpful in supporting the exit process. In the worst case, the ECB would even immediately stop euro clearing payments from Finland. Finland could also be cut off from SEPA, forcing Finland to rely completely on makeshift measures to run its payments system (see Section 3.1). The commission could even try to oust Finland from the EU, leading to major uncertainty, possibly large legal costs and (probably) to a political crisis in Finland and/or in the EU itself. Unfavorable derivative positions for exit could lead to unexpectedly large-scale losses for firms and banks with, e.g., need for substantial temporary financial support in the case of heavy depreciation of the NM. Finnish authorities could also fail on their preparations and/or on their efforts to achieve the trust of markets. Possible make-shift measures applied in banks could lead to failures of the payment systems causing additional hardship to the economy. These could lead to serious detrimental developments in, for example, Finland's forex markets, domestic markets, trade and/or the balance of payments. We will not try to estimate these costs or their probability, as they are highly uncertain, but just to note that a much more costly scenario for Finland to exit the euro also exists.

4.2 The benefits

In the long run, Finland's exit from the euro could lead to noticeable benefits. If redenomination was successful, her foreign net position could, over time, improve considerably (see Table 2 above). Still, the main benefit of an exit from a currency union is that it allows the adoption of a floating exchange rate regime, which in turn allows rapid adjustment to external shocks.

Small open economies, like Finland, tend to be specialized in a few export industries. Therefore, they are vulnerable to external shocks. Basically, there are two ways to respond to them: internal or external devaluation. Internal devaluation means reducing wages to accommodate the economy to external shocks, which is politically hazardous in most countries with strong labor unions. This was seen in Finland with the lengthy and painful delivery of the so-called Competitiveness Pact by the present government. Furthermore, successful wage moderation may lead to deflation and attendant financial difficulties.[37]

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[37] Schmitt-Grohe and Uribe (2015) show how wage-setting frictions increase the painfulness of macroeconomic adjustment under a currency peg.

The other option, external devaluation, or depreciation, means that the currency of a country loses its value against certain (or all) foreign currencies. [38] In a currency union, this is not possible. The constraints of a currency union are similar to those of a fixed exchange rate regime, with the exception that the individual country cannot change the rate. Finland's experiment with various versions of a fixed exchange rate lasted over several decades leading to an inflation-devaluation cycle. During those years (basically from 1948 till 1992), Finland devalued the markka eight times.

Exchange rate fluctuations are often feared to destabilize the economy, as flexible regimes adjust to inflation by foreign exchange depreciation. Domestic markets with a highly rigid internal price structure are certainly more likely to be inflationary and result in cumulative exchange rate depreciation. For instance, policies seeking to counter the purchasing power effects of depreciation may cause an inflation-devaluation cycle. If the authorities cannot improve internal price flexibility, they have to choose between a growth-constraining fixed exchange regime or an inflationary flexible exchange regime with an in-optimal allocation of resources.

In the Eurozone, Herrmann and Jochem (2013) found that current account imbalances were restored more rapidly in non-eurozone member countries in 1994-2011. Furthermore, the arguments that fixed exchange rates or currency unions promote international trade or long-term international investment are not in general supported by historical facts. The trade creation argument put forward by Rose (2000, 2001) and Frankel and Rose (2002) has been discredited by the subsequent evidence

[38] Under a floating exchange rate, monetary policy is available, and even fiscal policy is more effective (Woodford 2011; Corsetti et al. 2016). Corsetti et al. (2016) show analytically that macroeconomic stabilization in a small open economy faced with an adverse shock calls for exchange rate depreciation. With a sample of 50 emerging market economies over 1980-2011, Ghosh et al. (2015) explore whether hard pegs and pure floats are safer than exchange rate regimes seeking to combine the advantages of both. They find that "macroeconomic and financial vulnerabilities are significantly greater under less flexible intermediate regimes—including hard pegs—as compared to floats." According to them, "hard pegs are significantly more prone to growth collapses, suggesting that the security of the hard end of the prescription is largely illusory." Intermediate regimes are the most crisis prone, with the exception of "managed floats", which are similar to pure floats in being less risky.

(Havránek 2010). Recent research has produced more contrary evidence (Centre for European Reform 2015) showing that neighboring countries outside the Eurozone have in fact seen more trade creation than Eurozone member countries.

A common argument against flexible rates is that when import and export elasticities are very low, a depreciation of a weak currency can worsen the balance of payments deficit further. However, the more price elastic exports and imports are, like in Finland, the more likely a country is to benefit from a floating exchange rate. Thus, floating NM would be likely to reduce the need for further competitiveness pacts (etc.), but it would not avert the need for structural reforms. Even economies with floating exchange rates may struggle with shocks, as demonstrated by the experience of Sweden after 2007 and Japan since the end of 1980s. Output fell in flexible-rate Sweden as much as in neighboring Denmark with a fixed exchange rate regime, although sustainable growth was soon restored in 2009. Japan's example shows that without structural reforms, an economy may become trapped in a state of stagnation after a shock.[39] Indeed, while rapid cost adjustment relative to competitors may raise average capacity utilization over time, increasing growth and productivity needs a more flexible domestic price structure, particularly in the closed sectors of the economy and the labor market.

Finland's euro membership has provided Finnish small and medium sized businesses access to European goods and financial markets without exchange rate risk. Still, there is no point in denying the benefits Finland and her companies would gain from a rapid adjustment to relative cost shocks through its own floating currency. Finland's export sector is tightly concentrated in a few industries, which makes it especially vulnerable to asymmetric shocks occurring in the euro area. The foreign value of the euro is greatly affected by Germany (Ma and McCauley 2013), and its

[39] Japan had an asset price bubble that collapsed in late 1991 and early 1992.

response to the need of Finland's economy may be limited.[40] About 70 per cent of exports of Finland go to non-euro countries, after all. [41]

The benefits of not being a part of the euro area also include stepping out from the tendency toward increasing political federalism and reclaiming democratic control over domestic affairs (EuroThinkTank 2014). In many ways, the euro area has developed into a *semi-federation* where decisions are prepared, marketed and implemented often by unelected officials, in and subsequent to crisis situations, hastily and without democratic consent of the voters of several nationalities and cultures. Stepping out from that could, in the view of some, actually be the biggest benefit of Fixit.

There are no guarantees that Finland would be any more successful in achieving hastened economic growth under NM. Exit would also bring about some long-term costs, like the (likely) deterioration of the financial conditions of SMEs. Still, it is likely that the Finnish economy would gain from having a currency whose foreign value would respond to her general economic conditions and shocks.

5. How to prepare for an exit from the Eurozone

The nature of the euro area today is very different from what was agreed at the time of the Maastricht Treaty in 1993. The area has had serious difficulties responding to external shocks because of the political and legal limits on transfers of sovereignty, income and debt. As reported in Bagnai *et al.* (2017): ”A growing body of evidence supports the hypothesis that the single currency has fostered divergence among its member countries, thus leading to the underperformance of the

[40] Until now, the value of the euro vis-a-vis the dollar has been rather favorable to Finland. In the early years of the euro, Finland's economy performed spectacularly well with the success of Nokia, and the strong value of the euro cooled down the economy (€/$ 1.60). Since the euro crises, the value of the euro has collapsed (€/$ 1.03), but NM could have depreciated even further.

[41] See a report by GnS Economics on how depreciation would have helped Finland after the crisis of 2008: http://gnseconomics.com/en/julkaisut/finland-and-the-emu/

euro area and undermining its resilience to external shocks.” There appears to be a growing agreement that the euro should be underpinned by a federal state to provide overall economic stability.

Under these circumstances it is not unrealistic to envision exits from the euro area. Fortunately, there are several means through which responsible authorities in such countries can better prepare themselves for adverse eurozone scenarios. These means include:

1. Countries should maintain a domestic payment system especially for retail payments. The system would not need to be used but would be maintained and serviced as a backup.
2. Building an ability to rapidly and cost-effectively issue an alternative currency, either through physical notes or through digital systems, should be encouraged.
3. Countries should insist on changes to European treaties allowing for a unilateral exit and specifying a process through which this could be done with minimal economic disruptions.

Finland could take several contingency steps, which could prepare her for exit from the euro without directly leading to such. At present, Finland is not looking for a euro exit but at the same time cannot accept a major loss of sovereignty. Because Finland cannot by itself completely decide on the alternatives that will eventually be offered to euro members, ensuring that a choice between the two unpalatable alternatives is realistically available makes sense. Furthermore, even if Finland decided to retain the euro, the possible exit of other countries could conceivably lead to the complete demise of the area, although at the current time this seems unlikely.

We recommend that Finland take the following steps to safeguard its position against unwelcomed developments in the euro area, regardless of whether they are directly related to a break-up or exit from the euro area.

1. Finland should prepare her various institutions to manage a breakup or unilateral withdrawal from the euro. This includes a back-up domestic payment system.
2. Finnish authorities should conduct a comprehensive study on the benefits and costs of continuing euro membership, especially given future prospects of decreasing economic sovereignty and increasing joint liabilities within the area (see, e.g., the European Comission 2017).[42]

Finns and other European citizens should acknowledge that the euro area will either develop into a federal union or break up in some way. In the long run, there will be no middle ground (see, e.g., Bordo and Jonung 1999, EuroThinkTank 2014, King 2016). If these profound alternatives are acknowledged, thorough preparation for the day when euro area management may prove impossible for some countries to accept should be in the interest of every responsible decision maker in the member states.

6. Conclusions

The idea of an exit from the euro area was considered unthinkable until 2015. During the Greek crisis, exit became a real possibility, but with highly uncertain short-term economic implications. In this paper, we have tried to remove some of that uncertainty. We conclude that exit

[42] https://ec.europa.eu/commission/publications/reflection-paper-deepening-economic-and-monetary-union_en.

from the European common currency would be possible but a difficult task.[43] The high and growing state of integration, especially in the area of payments and financial systems, has bound members of the euro area together strongly, as intended. Still, it is our finding that these ties can be severed without economically catastrophic results even in the short run.

The likely main objective of any country leaving the euro is to try to minimize the costs associated with exit. This includes efforts to keep any exit preparations secret as long as possible, as well as introducing capital controls during the exit. The practical issues concerning the cost minimization objective include domestic currency redenomination, constructing and maintaining a functional (domestic currency denominated) payment system, issuing new bank notes, establishing a central bank independent from the ECB and creating a functional (liquid) foreign exchange market for the new domestic currency. Each of these objectives requires both preparation before and flexibility after the exit.

Although European institutions, like the ECB, EBA and the European commission, cannot block a country from leaving the currency area, they can increase the costs of such a move. Action by the institutions will, e.g., have a noticeable impact on the extent and length of the necessary capital controls. Despite this, engaging in pre-exit negotiations with the institutions and member states of the Eurozone is risky, mostly due to the possibility of leaks and to the fact that there is no euro exit clause in the current European Treaties. This should not, however, exclude informal discussions with the European authorities at least immediately after the exit.

Because we do not have any examples of a country exiting the euro and/or no exit clause specifying a detailed path out of the euro, estimation of the costs can be nothing more than

[43] The main problem may lie on the political side; euro membership has mainly been a political issue in Finland, that is, integration with the western world, and probably also in many other members of the Eurozone. Technically, a change of currency is always possible. It has happened many times in history.

sophisticated guess work. Despite the uncertainty, it appears that the exit of Finland from the euro need not be very costly. Assuming no problems with euro area institutions, the immediate direct costs of an exit could be in the range of 10 billion markkas/euros. This is mostly due to the very good external debt position Finland still poses. However, more costly exit scenarios can also be imagined, especially if euro area institutions actively oppose and disturb the exit process or if initial domestic economic policies do not inspire confidence. The situation concerning benefits is much clearer. Finland would regain her monetary independence, and most importantly, the foreign exchange rate of Finland's currency could adjust automatically to all foreign and domestic political and economic shocks. Although this would not remove the need for structural reforms in Finland, adjustment to shocks would happen through *external* and not through *domestic* factors. Deals like the Competitiveness Pact, the delivery of which was very painful and time consuming, would not be vital for coping with the shocks.

The intention of this report is not to argue whether Finland should continue her membership in the euro. We have envisaged one possible path out of the euro, which may be considered an alternative to the ever louder calls for further integration. It is also a sign of great ignorance to say that political constructions like the euro cannot fail. At some point, they always will, and political moods dictating their fate can change surprisingly quickly, as we have seen recently.

Benjamin Franklin was quoted as saying: *By failing to prepare, you are preparing to fail*. After the near miss exit of Greece, this should be the guiding principle of every member of the European common currency. If (when) the breakup or exit of a country or countries from the euro occurs, those not prepared will be the hardest hit. The authors of this report hope that Finland will not be among them.

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APPENDIX

Appendix 1: European payment systems

The joint payment systems were constructed over a period of 15 years. In 2008, TARGET2, a large value payments real-time gross settlement system, was introduced and is now the world's largest system, with other EU countries and countries outside the EU participating. The single euro payment area (SEPA) was introduced in 2008 and includes the EBA Clearing Euro 1 and EBA Clearing STEP 2 payment clearing systems. The former is an older large value system, and the new STEP 2 is a retail payments system. The SEPA area already serves over 500 million inhabitants and is the largest mass payment system in the world. STEP 2 has been developed further; in 2014, it also introduced e-payments and is planning a mobile payment system for autumn 2017. Most EU countries, as well as non-EU countries, e.g., Norway and Switzerland, participate in SEPA.

The newest system is TARGET2-Securities, which is managed by the ECB. This system began in 2014 and operates the post-trading activities of securities trading. The participant is CSD:s (central securities depositories). The number of participants is increasing gradually and includes EU countries and countries outside the EU (for euro payments trades).

These systems have functioned reliably and are efficient. No systemic risks have occurred. All of these systems are gradually adopting the newest technologies and are highly competitive on a global scale. Many euro countries still operate purely domestic payment systems, typically for local (small) banking groups, but their role is diminishing because the EBA Clearing STEP 2 is a more efficient and less costly system. Finland was among the first countries to integrate almost totally into the euro payment systems. When SEPA began, the Finnish retail system (PMJ) continued to function until it was finished in 2014, and local banks used PMJ until 2014. Finland still has a large value payment system (POPS), but it will probably be gradually phased out. In Finland, a new mobile payment system was introduced in March of this year that is expected to grow in popularity, as has happened in Sweden.

In the case of an exit from the euro system, every euro country operating only under them would have large and challenging problems, as new domestic payment, clearing and settlement systems would have to be rebuilt. This would require 1-2 years, and in the meantime, temporary solutions would have to be created, in particular in the case of a unilateral exit from the euro. However, if the whole euro system collapsed, some transition period would likely be agreed upon for the transfer to the new currency systems of member countries; otherwise, the situation would be a catastrophe for Europe and the wider world.

Appendix II: Central articles referring to the function of a central bank in the EU.

> *Overdraft facilities or any other type of credit facility with the European Central Bank or with the central banks of the Member States (hereinafter referred to as 'national central banks') in favour of Union institutions, bodies, offices or agencies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the European Central Bank or national central banks of debt instruments.*
> - TFEU article 123

> *When exercising the powers and carrying out the tasks and duties conferred upon them by the Treaties and the Statute of the ESCB and of the ECB, neither the European Central Bank, nor a national central bank, nor any member of their decision-making bodies shall seek or take*

instructions from Union institutions, bodies, offices or agencies, from any government of a Member State or from any other body.

- TFEU article 130

Each Member State shall ensure that its national legislation including the statutes of its national central bank is compatible with the Treaties and the Statute of the ESCB and of the ECB.

- TFEU article 131