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Stagflation and monetary policy

Theoretical basics

Any recession in production – or drop in its growth rate – is limited in time. The persistence and depth of each recession, however, may be very different indeed. Often, it is only a decreased growth rate that is observable. If the rate of decrease is considerably higher, is also manifest in a falling absolute level of production, and is also extended in duration, special factors are at play.

It must be thoroughly understood why the contractionary spiral emerging in a recession cannot be infinite.[1] A number of factors cause this effect. The rate of decreasing consumption or decelerating growth of consumption is always lower compared to that of income, because the marginal propensity to save drops in times of recession. In such times, households use a portion of their accumulated savings for consumption. Also, the absolute decrease in investments always has a limit at various values in various cases because the annual investments in the corporate sector are not only adjusted to short periodical changes in demand but also to the size of a future capital stock deemed necessary. The state budget either does not reduce its expenses or, if recession is caused precisely by cutting back state expenses, does not continue decreasing expenses beyond an intended limit.

By today, services have reached a considerable ratio within total economic performance, and the use of some of them cannot be eliminated even in a bad economic situation. Households would rather borrow credits or use their earlier savings to buy goods, or would request financial assistance from relatives in order not to have to cut back purchasing certain services, or only to a moderate extent. Finally, particularly in small and medium sized countries, foreign trade, and exports directly play an important role. If the setback is not concurrent in all countries, the continued rise in foreign demand sets a limit to declining economic performance.

When examining all these in combination, some decline in the increase of aggregate demand or in the level of demand may also be considered. Let us say, it – *the primary effect* – equals 2 per cent of the GDP. The secondary effect is no other than the role this 2 per cent plays in further decreasing income and – consequently – demand. It is important to know the ratio of this secondary effect to the primary 2 per cent decrease. If this ratio is, say, $^1/_4$, i.e. 0.5per cent of the GDP, and it remains $^1/_4$ in all further rounds, the maximum rate of GDP decrease can be calculated. (Not yet considering that factors assisting economic growth are also at play concurrently). We are facing a decreasing geometric progression, with a first term of 2, a quotient of 1, and a sum of $2^2/_3$. In this example, the maximum drop in GDP can be 2.67 per cent.

The actual fall may converge to this ratio, but may not ever reach it. However, – still not considering factors that affect growth concurrently – the decreasing effect *converges very close to* 2.67 per cent, as the majority of the effect that reduces demand and production is at work as early as in the first rounds. (In our example, it equals 2.5 per cent in the first two rounds, only 0.125 in the third and 0.031 per cent in the fourth). In reality, processes never reveal such an extent of regularity, because the parameters may change in the meantime. The example, however, helps understand that the contractionary process cannot be infinite.

This is the point where further effects emerging in the meantime and persisting in the economy must be added. If these caused a 4 per cent annual growth rate on average, then the joint consequence of the contractionary and the growth impact would not be an approximately 2.5 per cent decrease in production, but a GDP *growth* between 1 and 1.5 per cent! It is only the *growth rate* that decelerates, not production![2] The actual extent of this deceleration also depends on the intensity of persisting growth processes.[3] The effect of these diminishes over time. The more delayed depression is, the less its role can be counted on in curbing contraction.

THE LOWER TURNING POINT

It is understandable that recession of the economy will stop sooner or later, or perhaps only a decelerated growth rate will be experienced. In addition to that, another highly important thing takes place: a turning point which is crucial to understand. Deceleration of contraction, followed by a halt, is necessarily replaced by an upsurge in the economy. Normally, this is of an extent and duration that it is concomitant to economic growth over a relatively long period.

The turn of events is triggered by a number of factors. First of all, the fact that a conflicting inequity is starting to unfold between the aggregate demand and aggregate supply together with the continuously changing prices and price level: aggregate demand is starting to exceed aggregate supply. This is rooted in multiple causes. Employment and the total wages paid decreases at a slower rate in recession compared to production, or the rise in employment decelerates to a smaller extent compared to the decline in the growth of production. Companies are interested in retaining experienced workforce, or at least a considerable portion of it, even in worse market conditions. A similar impact derives from the fact that the change in the consumption of people at higher income is inelastic. So, it is a natural consequence that with the price level decreasing or decelerating, the aggregate demand starts exceeding aggregate supply: production must grow again.

In a market economy, which basically represents capitalist economy, the profit motive is a crucial – although not exclusive – factor in decisions. The turn may be dynamic if motivated by an improving profit outlook. What this also means is that economic growth is well founded if driven by investments and exports. The same can be stated about the lower turning point, which represents the end of the contraction process: if growing investments and exports are crucial factors in it, the turn may be dynamic. This is because these two factors favour profit expectations.[4]

Investments play a crucial role in the turning of events. The outcome depends on the joint effect of three factors.

- *First*, on the possible size of the necessary capital stock as expected for the coming years, basically, in the medium term. Certainly, this cannot be accumulated in a single year, only over multiple years, i.e. expectations also reckon with an increase in investments *justified on an annual basis.*
- *Second*, on an approximate profit rate that may be yielded by the capital increment

deemed necessary. The latter influences expectations affecting the desired capital increment, and these two are considered jointly.

Third, on the *current* rate of real interest, as this is the *opportunity* cost of capital projects. If the investment is funded from credit, the interest to be paid is a deduction from the expected realizable profit for each company.[5] It is not simply the amount of future profit but the discounted one that needs to be considered.

It can be established: the higher the current interest rate, the lower the amounts of capital increment and the annual increase in investments deemed necessary for the medium term. What is more, it is also possible that a high interest rate allows no increase at all in investments on a national average.[6] The same considerations apply if investments are not funded from credit. The source of investments is mostly an internal resource, the gross profit realized by companies, including amortisation. However, even in such a case, interest is also to be reckoned with as the *opportunity cost* of investments.

If nothing interferes, the dynamics of the interest rate will trigger a turning of events in terms of investments. In times of recession, nominal and real interest rates usually drop. The expected profit rate, however, *does not have to* decrease; mainly, this does not depend on the relevant year's actual profit figure. The discounted present value of expected profit and the proportion of it to the capital increment may soon exceed the effective real interest rate. The more considerable the decrease in the interest rate is, the more so. And if in the same period aggregate demand exceeds aggregate supply at the given price level, a rise in investments will really start off, and we will get over the lower turning point. Practically, we are facing a spontaneously emerging mechanism, where the change in the interest rate plays a central role in addition to the profit motive.

If something hinders the decrease of the interest rate, or if the interest rate even rises, the turning point is still to be awaited, and recession may be extended. The longer the delay until the turning point, the worse the economical situation may turn. This is because the persisting effect of earlier growth – this peculiar *inertial effect* – necessarily diminishes with time. Recession may deepen![7]

In addition to investments, the rise in exports may also promote reaching the turn of events, partly due to its effect on profit, and party because it may also raise aggregate demand above aggregate supply. Here, however, no automatism so strict and supportive of the turn emerges as seen in the case of interest rate change.

Certainly, in the times of recession, a pressure to export always emerges, which curbs decrease in aggregate demand. But such an export pressure may entail lower external sales prices compared to earlier ones, and consequently, lower profits realized. The effect is controversial. The automatism could function well if no price decrease affected the exporter. This would be guaranteed if the currency exchange rate did not rise in times of recession, or even more, *if it decreased.* This, however, may have all kinds of possible outcomes, the exchange rate of the national currency my fall, rise or stay basically unchanged.

If the interest rate decreases due to the recession, it *may have* a weakening effect on the currency exchange rate, which consequently increases exports. To this extent, a certain automatism may be represented, which is interlinked with the behaviour of speculative capital that sensitively reacts to international differences in exchange rates. Where the nominal interest rate diminishes, speculative capital outflows, and the currency exchange rate may fall indeed. A lot depends on the economic situation of trade partners. If recession emerges in multiple countries concurrently, then interest rates are headed down in each country, and this

is why the existence of the abovementioned automatism facilitating the turning point in the economy does not arise. The following can be established:

Elimination of recession is greatly facilitated if the discounted present value of the profit expected for the future due to a decreased interest rate significantly exceeds the current interest rate, and if the growth of exports is not hindered by special factors, such as the level and perhaps an increase in the exchange rate level and of the national currency. In a case contrary to this, recession may be extended in time and in depth. Certainly, recession is also influenced by other factors. Nevertheless, we are analysing the potential role of monetary policy here, and, apart from a few side tracks, we ignore the effects of other factors.

STAGFLATION

Stagflation is a special version of recession. It emerges when slowdown of the economy or at least a considerable deceleration in the growth rate of the GDP is accompanied by a rising or high inflation. In the 1970s, it was a new phenomenon that recession may entail accelerating inflation as well. It was that point that revealed: it is possible for output and inflation to move in *opposite directions.*[8]

Recently, the thought of a threatening stagflation trap has emerged also in connection with Hungary. The growth rate compared to 2006 has considerably dropped, and the inflation rate has considerably risen. If the central bank pursues a restrictive monetary policy in such cases in order to press the inflation rate lower, it may result in extended stagnation.[9] This problem provides motivation for writing this article. The subject is rather complicated; this is why we must proceed step by step.

A number of complicating factors are to be faced. Such factors arise in connection with interest rate policy, and some more on examining the dynamics and effects of the exchange rate. If, for example, the exchange rate rises, external competitiveness may – surprisingly – *weaken or strengthen*, and export may *decelerate or accelerate!* All depends on *what stands in the background to the exchange rate rise.* For this reason, the role of monetary policy within recession or in times of stagflation cannot be addressed until certain important complicating factors and their role are understood. First, we examine the effect of the central bank on market interest rate level more closely, and then we proceed to the factors that complicate the exchange rate in steps. Only after these can we state an opinion on the current monetary policy pursued by the National Bank of Hungary (NBH).

THE CENTRAL BANK'S INTEREST RATE POLICY AND THE YIELD CURVE

It is known that NBH- similarly to the general practice of central banks – intervenes in interest rates at the "short end" of the yield curve. It does not influence the interest rates and interest rate changes of securities or of deposits and loans with a term of one year or longer, *directly*. The latter directly depend on the market expectations. Is this taken to mean that the interest policy of the central bank does not affect the yield of financial investments with a term over one year? If that was true, it would be difficult to understand: a rising HUF exchange rate is *duly experienced* in the wake of an interest rate raised by the central bank.

A considerable part of foreign investors invest their money for medium term. If the yield did not rise as a result of the interest rate raised by the central bank, and no higher yield was expected to follow on, how could the demand for and the exchange rate of the HUF rise sooner or later after the rise of the central

bank interest rate rise? We had an opportunity to experience the dependence of the exchange rate on the central bank interest rate hike in May 2008: the central bank base rate grew from 7.5 per cent to 8.5 per cent within a short time, and the forint exchange rate rose considerably again, despite a domestic inflation that accelerates significantly more than abroad.

The result is understandable, once we admit: money markets of various terms are not segmented from one another, but they compete. If, as a result of the rise of the central bank's interest rate, the yield of short-term securities rises, it also spreads on to the yield of longer term securities.[10] The central bank *indirectly* influences the whole yield curve.

This is true in the event of both interest rate rise and interest rate cut performed by the central bank. Of course, the yield curve is also affected by different factors. All that means is the actual development of the yield curve is a *resultant* of various effects.

The result is this, because, ultimately, the yields of investments cannot be *considerably* dependent on whether financial investments are short-term on a continuous and repeated basis or longer-term, because of the competition among the various terms. Seeing the short-term yield, a financial investor that has normally chosen long-term investments so far, will start investing in short-term securities, and reinvesting again here, on maturity: this results in levelling off the yields. Inversely, if the yield of longer-term investments is higher, the volume of short-term investments decreases, and that of longer-term investments increases, and levelling off the yields starts shifting in favour of the short-term yields. This explains why the effect of the central bank interest rate rise does not stop at short-term deposits, although the central bank intervenes on the short-term side only. Financial investors are aware that the effect of the central bank interest rate rise will *ultimately* reach the whole of the yield curve; this is why levelling off the yields occurs relatively soon.[11]

On pursuing an anti-inflationary policy, the central bank raises the central bank interest rate. If the monetary policy is successful, the inflation rate will decrease. The central bank base rate may repeatedly decrease in line with the decreasing inflation, accompanied by the whole interest rate level due to the expectations. In such cases, the yield curve must be sloping subject to the term, although this does not exhibit a decrease to an extent equal to the decrease of the annual interest rate in the following years. It is also possible that the expected inflation rate drops significantly, still, the yield curve sinks only to a very slight extent even if inflation expectations are realistic.[12]

This is because the shape of the yield curve also depends on the expected risks. One of such risks is the danger of nominal depreciation of the currency. If, for example, inflation in a country has been persisting for an extended period and is considerably faster than the inflation with trade partners, while the central bank's interest policy has prevented the depreciation of the national currency, the danger of subsequent depreciation or a spontaneous deterioration of the exchange rate is growing. In such a case, the interest rate must also provide protection against a probable depreciation, in addition to compensating for the expected, incidentally decreasing inflation for longer terms. Decreasing inflation alone would justify a downward sloping yield curve still, the yield curve may also be rising due to the risk of depreciation. In Hungary, the central bank expects an inflation rate that reaches 3–4 per cent *from above* as early as by 2009, which would represent a considerable decrease compared to the accelerating inflation of the preceding years. The yield of longer-term money investments, however, does not show a *significantly falling* trend: investors are afraid of a nominal depreciation of the HUF in the future.

INTEREST RATE, EXCHANGE RATE, EXPORTS

In the continuation, it is sufficient to keep in mind that the central bank is capable of influencing the interest level for each term, although not directly, but indirectly, except for short terms, through expectations. For this reason, the central bank also influences the currency exchange rate, because international differences in interest rates are attractive to speculative money capital. If the interest rate level rises against the foreign one, speculative capital becomes more interested, they increase their investments in HUF, and the nominal exchange rate of the HUF rises. Although to various extents subject to the properties of each national economy, a rising currency exchange rate decreases import prices denominated in the national currency, thus urging imports, and curbing exports. I have discussed this in more detail in a previous article of mine,[13] and the correlation is well-known.

One aspect, however, needs to be addressed here: does the exchange rate have a considerable effect on exports and imports? Because this, as will be seen in further parts of this paper, directly affects the subject of our examination: how to get out of the state of stagflation? Currently, NBH is of the opinion that the exchange rate – even if rising, and even if rising to a significant extent – does not hinder a rise in exports.[14] Accordingly, it does not stimulate that of imports either, as the effect cannot be mismatched depending on whether export or import is addressed. It cannot be stated that everybody within NBH shares this standpoint,[15] but – undoubtedly – this is the overall opinion.

In research, it is a frequent case that new empirical facts contradict accepted theses. In such cases, an issue arises immediately: is this contradiction real or seeming only? The problems should never be bypassed, since research gets really interesting and important at this point. It must be immediately examined whether the thesis previously considered valid can still be maintained, or whether it must be rejected and a new one formulated.

It is not at all certain, that an earlier thesis is obsolete and it has lost its validity. Examination of these problems, at the same time, almost always facilitates crucial findings, even if the earlier thesis remains valid, or if it is to be rejected. In the current case, this is the situation: the exchange rate rise *may* really be an important restrictive factor to exports. The problem cannot be handled by simply discarding the earlier thesis.

First of all, this is the question to be faced: how is it possible that, while a price rise *generally* leads to a decreasing demand if the level of incomes is given,[16] this connection is still not valid for exports? This is because companies could only obtain an unchanged price in forint in exchange for a unit of exports after the national currency exchange rate is raised, if they succeeded in selling their products for a *raised price in dollar, euro, etc.* abroad.

A frequent answer to this question is only partially satisfactory: imports become less expensive due to the appreciation of the national currency. This also reduces production costs, and the profit of companies may remain unchanged. The compensation available in this way is, however, only partial, because production costs, including payroll costs, for instance, only partially depend on import prices.

The following question must also be asked: how is it possible that, while the high domestic tax burdens deteriorating competitiveness in terms of prices represent difficulties in facing external competition – which is not doubted –, no similar difficulties are met in case of exports, examining the effect of an exchange rate rise. Although, this also results in a decreasing or too small margin between an obtained price in forint and company costs,

similarly to the result of rising or high level of taxes that drive up prices. Only after a correct and satisfactory solution to these questions can it be presumed at all that the theory of "stronger exchange rate – weakening export performance" is simplifying, or even untrue.

Research must also be conducted adopting an opposite approach: how is it possible that our Visegrad partners have increased their exports at an equally fast or faster rate than us, despite the fact that they – compared to us – saw a multiple times higher increase in the nominal exchange rate of their national currencies. Furthermore, how is it possible that the real exchange rate of the crown in Slovakia has also risen at a considerably higher rate compared to the HUF, and in spite of this, exports in the Slovakian economy have recently achieved higher dynamics than ours.[17]

If nothing else but the statistics describing the exchange rate are considered, and compared to the export performance of various countries over time, *it seems* the "theory" is obsolete indeed. In this way, it goes unnoticed that the change of the exchange rate in the same period is determined by multiple factors concurrently some *deteriorating* the competitiveness in foreign trade, and some triggering an exchange rate rise *without weakening competitiveness.* Certain factors that drive up the exchange rate may even lead to an improving competitiveness! The fact that multiple opposite factors are concurrently at work gains importance particularly when the economies of converging and developed countries are examined *together* when comparing exchange rates.

ECONOMIC CONVERGENCE AND THE EXCHANGE RATE

In converging economies, factors that drive up the exchange rate and do not deteriorate competitiveness concurrently may have a strikingly important role. A fundamental question is whether a country is *really* converging. Three of the Visegrad countries, but mostly the Czech Republic and Slovakia are undoubtedly converging economies. Unfortunately, Hungary is less eligible for this attribute. The convergence process has slowed down and stopped in the past few years, the development gap has even widened. Monitoring exchange rate statistics is insufficient because the fact is disregarded: the rise in nominal and real exchange rates has been mostly triggered by the actual convergence in the other three Visegrád countries in the past period of roughly 7 years, while, in Hungary, *mostly by the interest policy.*[18]

The *real exchange* rate of the national currency of an economy may rise as a result of a growth rate of productivity faster than abroad. The faster the growth of productivity, the more so if the nominal exchange rate is given.

Paradoxically, the consumer price index may also rise due to an increased productivity, *because of higher prices of services.* The price level of commodities in foreign trade, however, does not necessarily rise in such cases. This is why a rising internal consumer price level does not necessarily entail a deficit in exports; not even if the consumer price level remains stable on export markets. This relationship is termed in the literature as *Balassa-Samuelson (BS) effect.*[19] The national currency is appreciated in real terms, but this does not deteriorate export performance, as the unchanged internal price level of commodities traded in foreign trade ensures unchanged external competitiveness at a given nominal exchange rate. This is a case where increased real exchange rate does not deteriorate competitiveness, *but does not improve it, either.* This is also a case of convergence, because a faster growth of productivity is in the background to this process. Considering that in the past few years productivity has risen faster in the other three Visegrad countries, the BS effect presumably had a more significant role in

the appreciation of the national currency, compared to Hungary.

The factors in exchange rate rise that actually improve competitiveness are numerous. Mostly in Slovakia and the Czech Republic, *improving quality* has a major role compared to the BS effect. This may also be represented in rising *real* and *nominal currency exchange rates.* The general price level may rise due to a quality improvement in a wide range of commodities, and buyers pay more for better quality. Because prices are inflexible downwards, the prices of commodities that are not improving in quality often decrease to a lower extent: it is not surprising if improved quality is accompanied by a rise – even if not proportionately – in the general price level. This may have a twofold effect on the exchange rate.

❶ The export prices achieved also rise because higher prices are also paid by foreign customers. If the internal price level still does not rise with foreign trade partners due to imports from a converging economy – which is easily the case, as import from small or medium-sized countries may only represent a tiny fraction of internal turnover of commodities in larger countries –, a real appreciation takes place in the converging economy *at a given nominal currency exchange rate* without the slightest curb on exports.

❷ *The nominal exchange rate follows* improved quality. This may take place spontaneously: importers, seeing commodities of improved quality, seek the national currency of the converging economy, and, consequently, the nominal exchange rate starts rising. Another option is that the central bank of the converging economy, seeing the growing demand for their national currency, nominally appreciates the national currency. Either in this or that way, the nominal exchange rate – certainly in combination with the real exchange rate – rises *without causing a disorder in expanding exports.*

A beneficial change in goodwill, i.e. the fact that the country's economy receives a better judgement from trade partners, has an effect similar to quality improvement. As a result, commodities to be exported can be marketed easier at higher prices even if no quality improvement has been seen in the past few years: also a given quality earns more recognition later than earlier. Demand for the national currency may also grow at an accelerated rate for this reason too, the nominal exchange rate may go up either spontaneously or as a result of the central bank's decision. It is fundamental that in the case of both quality improvement and goodwill, foreign demand is rising, and the foreign purchase price offered for domestic products is also on the rise: this is *the starting point of appreciation!*

Fast change in the production structure has particular significance, provided that it adjusts continuously and flexibly to the requirements of the global market. At this point, export may grow at an accelerating speed, the nominal and real exchange rates of the national currency may rise as a result of a favourable balance of foreign trade and a balance of payments, and a rising exchange rate *may not even trigger a fall or deceleration in the growth rate of exports!*[20]

The factors listed above are typical of *converging* economies. If, then, we examine the correlation between exports and the currency exchange rate, it cannot really be stated that a higher exchange rate causes weaker export performance! In this case, a rising exchange rate goes hand in hand with the persistence and/or strengthening of competitiveness. Nevertheless, we may have to handle statistical data describing the economic performances of converging economies, of the countries leaving the group of converging ones, or perhaps of declining economies, concurrently. In such a case, rising nominal and/or real exchange rates may signify *quite a different thing* in each economy.

This is so true that one may state with confi-

dence: the so-called "real effective exchange rate index" cannot even be considered a good indicator of competitiveness. If, for instance, it is calculated by putting the domestic price index and the exchange rate index in the numerator and the foreign price index in the denominator, the temporal increase of the fraction may reflect deteriorating and improving competitiveness, as well, depending on which country's economy is examined. It is possible, for instance, that the nominal exchange rate of the national currency has risen in the converging economy *because* foreign demand for the national currency has been dynamically rising *due to* the rapidly improving quality performance, the flexibly adjusting production structure to the requirements of the global economy, and the considerably improving goodwill! It is therefore possible that certain countries may see a powerful rise in the nominal and real effective exchange rate index too. Yet, external competitiveness jointly with export performance may considerably improve *despite the appreciation if* certain strict prerequisites are met.

But what about a situation where domestic inflation is considerably faster than external inflation, *due to* a high public finance deficit and nominal wages growing at a rate considerably faster relative to productivity? *The central bank may prevent* the national currency exchange rate from falling; say, it raises and maintains the prime rate at a level much higher than the prime rate abroad. In this case, the real exchange rate of the currency rises. At this point, competitiveness is already deteriorating! *If the nominal and/or real exchange rate rises for this reason,* we may not simply exclaim "see, in other countries the dynamics of exports are higher than ours, despite the fact that the exchange rates of their currencies rise at a faster rate than ours!"

Dynamic change in the structure, rapid upgrade in quality and improving international judgment bring about a quite different effect than a persistent and fast inflation coupled with a restrictive interest policy of the central bank. If in the latter case the nominal and real exchange rates of the national currency rise, foreign importers would have to be paid a higher price calculated in their own currencies for the same commodity in order to cover the increasing money expenses of the domestic company. Foreign customers do pay more for imports from truly converging economies, but they would be a fool to pay a higher price than earlier only because the higher supply price is simply a consequence of inflated wages or careless deficit-generating spending habit of the exporting country. We cannot tell them to pay more because nominal wages in our country have risen much more rapidly compared to the growth of productivity.

The movement of the so-called real effective exchange rate index is totally insensitive to the background of its rise. Experts must be aware of this when working with the relevant statistics.[21] If we fail to take care of it, we may easily arrive at false conclusions that contradict reality, which may also lead to a mistaken monetary policy.

EXCHANGE RATE, EXPORTS, IMPORTS

The truly crucial question is the following: what can be expected in terms of exports (and imports), considering that the exchange rate is not adjusted to the actual inflation rates, and to the changes of the purchasing power parity[22] Just to avoid misunderstandings: what could happen if, for instance, inflation in country *A* is fast compared to country *B because the outflow of nominal wages is overly rapid,* and the *deficit of public finance deficit is also high.* In spite of that, the nominal exchange rate of country *A,* instead of decreasing, increases against country *B,* say, as a result of the raised central bank interest rate.[23]

It is not an easy task to give a correct answer to this, because there are factors that disturb clear vision and factors that powerfully affect the real economy. The result depends on whether a shorter or a longer period is under scrutiny, and also on whether the interest rate rise was preceded by a state of overvaluation of the currency. I am going to return to the latter problem in the continuation.

Paradoxically, nominal appreciation of the national currency may be *initially* accompanied by an accelerating growth of exports. The problem is related to the "J curve" known from the literature, which expresses that *volume and value effects* are concurrently in operation in exports and imports[24]

If the national currency is devalued, exports will take a shape similar to an *inverse J curve.* In case of appreciation of the currency exchange rate – if the rise is significant – exports of commodities initially follow an *upside down J curve.* This means that the rise in the exchange rate, say, in case of its significant rise – may be followed by an increase in exports and the export rate, instead of a decrease.

An important influencing factor here is that trade contracts, which may be concluded months or half a year or a year in advance, must be complied with by both sellers and buyers. The other one is that production must adapt to a new situation brought about by a significant change in the exchange rate, and that requires time. For this reason, the export *volume* shows no or little decrease after the appreciation, and no or little increase after the devaluation. But because the *price effect* of the exchange rate change is immediately felt by the exporter, appreciation initially leads to a rising export price revenue, and the export value only decreases after a while. (An upside down J curve) Devaluation, in turn, initially causes export revenue to decrease, and only later raises it. (Inverted J curve)

This picture is also disturbed by other factors. Multinational companies play a crucial role in exports in Hungary. These companies *ab ovo* calculate in foreign currency in production, exports and imports: changes in the exchange rate do not affect them in these connections. If, however, they use inputs from the receiving country, a change in the exchange rate does count. Such inputs are primarily the employment-related payroll expenses and the applicable contributions. In this way, the exchange rate is already an unimportant factor for them. This may affect their output, and accordingly, their exports, and also the volume of their reinvested profits.

The exchange rate quite directly affects the exports of small and medium sized enterprises. Although they only provide a relatively small share of all exports, and only one third of these companies produce for external markets, a significant rise in the national currency exchange rate may result in a loss in export performance. The nominal exchange rate of the HUF grew by 15 per cent in the period February-June 2008, accordingly, from this period on, they receive much less revenue in HUF from their export. And we should add: a rise in the national currency exchange rate strengthens external competition in line with the rate of appreciation: the gap between costs and the attainable price decreases, and a considerable portion of small and medium sized enterprises can be more easily forced out of the internal market.

Costs include taxes imposed also on small and medium sized enterprises. Their weak competitiveness is customarily explained by high taxes. Too high taxes are indeed a factor that deteriorates competitiveness, partly through raising company costs. But competitiveness is also deteriorated by the overvalued domestic currency, and it is difficult to tell what role is played in it by the taxation and by the rising nominal and real exchange rates. For the exporter, appreciation approaches the realizable HUF price to the costs *from above.*

Without considering the exchange rate, nothing can be stated for certain about external competitiveness.

The problem cannot be settled stating that, at present, only one third of small and medium sized enterprises rely on export markets. The proportion may change. The HUF exchange rate may also be a reason why two thirds of small and medium sized enterprises rely on the domestic market only. This ratio may continue decreasing if the exchange rate keeps rising.

All in all: it is not enough to know the data, *one must look behind the figures!* Particular attention should be paid to it when making international comparisons; statistics may reflect rather different processes even for each country. *The least* we can establish as a lesson learnt is: monetary policy forcing a rise in exchange rate cannot be expected at all to strengthen export dynamics.

INFLATION TARGETING AND STAGFLATION RISK

NBH is pursuing inflation targeting policy even today. They intend to force the annual rate of inflation down to 3.6 percent by 2009, although inflationary pressure is globally rising as a result of the dramatic rises in food and energy prices. A tool of inflation targeting is primarily the central bank's interest policy, even a serial rise of the base rate in the given situation, jointly with a rising forint exchange rate and keeping it high. The central bank is not afraid that this policy increases the risk of stagflation.

Let us take the interest rate policy first. It is a solid fact that the share of multinational subsidiaries is rather high in the domestic economy in terms of production and investment, and their export share is even higher. Their decisions on investments and production are not made depending on the current domestic interest rate level. Their activities match their economic strategies adjusted to the global economy, and their decisions may be almost totally independent of the policy pursued by the central bank in Hungary. Therefore no serious objection may be raised against the interest rate policy of MNB *in this respect.*

A further problem is that even the domestic corporate sector does not necessarily respond sensitively to the nominally high HUF interest rates, because it is also possible to rely on foreign currency based loans lent at a considerably lower interest rate. Moreover, the willingness of households to borrow loans cannot be understood without the role of foreign currency based loans. For the same reason, no *significant* drop is expected in economic activity in the *corporate sector* of national ownership due to *direct* effects of a restrictive interest rate policy.

High interest rates, however, do rise the exchange rate of the HUF. This has a moderating effect on inflation, because it cheapens import, and it this way, moderates the weakening in the competitiveness in prices brought about by the rising exchange rate of the forint. As seen above, there are rational and valid arguments too in favour of the given monetary policy.

However, imports relatively cheapened by an increased exchange rate may also have an expressly adverse effect. A drastic increase in the prices of energy carriers, among them the price of crude oil and natural gas, further on the price of certain raw materials and food can be seen on a global scale. For us the critical issue is the soaring prices of crude oil and natural gas. The domestic monetary policy – certainly – has no effect whatsoever on the global prices of these. It can affect, however, the domestic *HUF price* of crude oil and natural gas. The latter increases less if the forint exchange rate rises. We cannot be completely happy with it, since the soaring of the global price of crude oil and natural gas is not tem-

porarily. The faster we manage to adapt to it, the better. Conversely, adaptation is slowed down by the lower crude oil and natural gas prices in HUF due to the over-valued currency. High interest rates have a similar effect: structural changes always entail demand for investment, but the latter is necessarily restrained by a higher interest rate level.

Attention must also be given to the following: the rise in prices of sources of energy generates a rise in the overall price level, too. This is typical case of the cost-push inflation. Raising the central bank interest rate remedies the demand pull inflation only, but not the cost-push one. Even if the increase of nominal aggregate demand can be restricted – which is not unconditionally guaranteed – cost-push inflation cannot be satisfactorily eliminated. (Only partial success is possible, as a result of the exchange rate effect discussed above, which has more adverse consequences). The ultimate result is: delayed recovery from economic recession. This is because in the case of a reduced aggregate demand coupled with cost-push inflation can have no other consequence than withholding the economic performance. The same monetary policy cannot be equally advantageous in circumstances of both cost-push and demand-pull inflation!

Let us add to the above: there is no point in raising the central bank base rate and so raising the general level of HUF interest rate, if the share of foreign currency based loans is rising, and the changes of the HUF interest rate do not count as a considerable factor in the activity of multinational companies. (It only counts inasmuch as they also have a demand for HUF due to their inputs of local origin). The weak position of the HUF deteriorates one of the most fundamental tools of the economic regulation. This also means that reducing inflation to a rate of 3–4 per cent by 2009 is imaginable though, but success is well on the doubtful side.

Had the monetary policy not have facilitated a fast spread of the foreign currency based loans earlier, gradually pushing the HUF in the background, the situation would be different. If monetary policy had not been subordinated to the inflation targeting unilaterally and the HUF exchange rate had not been kept high artificially, the domestic economy would show a better position at present. It can only be understood in combination with examining the exchange rate policy why the current monetary policy does not serve well the purpose of eliminating stagflation.

In my view, the NBH management commits two mistakes. The *first*: they seriously believe that the forint exchange rate is rising as irreversibly as observed with the Czech and Slovak korunas. They are also convinced that a rising exchange rate does not deteriorate the country's export capacity. See, economic development in the Czech Republic and Slovakia are good examples that an accelerated growth of export may be achieved, parallel to the rising exchange rate. The *second*: there are signs that MNB believes: although interest rate raises are followed by a rising HUF exchange rate, the decrease of interest rate does not have to be trailed by a falling exchange rate of the HUF. That is, the connection between the interest rate and the exchange rate is *unidirectional*, goodness knows why.

The management of the NBH believe, they act correctly when increasing the base rate. It drives the exchange rate up, which does not restrict export growth but forces the inflation rate down. If the rate of inflation already complies with the desired rate (and also with the requirements of a subsequent accession to the euro-zone), the central bank base rate may be gradually reduced. This results in a lower average of market interest rates without driving the forint exchange rate down. There is no need to be afraid of the current rise in the exchange rate, nor of the high nominal and real interest rates. Or of stagflation.

But this logic is, however, vulnerable. It is not true that a rising exchange rate does not limit the export growth in any circumstances. Since the dynamics of the exchange rate was mostly determined by factors other than economic convergence, its rise does have a restrictive effect on exports.[25] It hinders exports primarily for the small and medium sized enterprises. Their export performance – in part the dynamics of exports, and, over time, the *level of export value* could be higher, if accompanied by a lower exchange rate of the HUF. Of course, exports may also grow accompanied by a HUF exchange rate artificially kept high; this, however, does not exclude the probability that the value of exports could even be higher at a lower exchange rate. No experiments can be conducted on this subject, and it cannot be tested what would happen or would have happened to exports if coupled by permanently lower interest and exchange rates.

Rapidly increasing exports, moreover exports increasing even faster than imports can easily be explained despite the existence of an over-valued currency. Multinational enterprises mostly produce for export; consequently, the more secure and significant the position they have achieved in the domestic production, the more robust the export dynamics can be. And if the economy suffers recession, the *export pressure* for companies being in national ownership also contributes to a higher export performance. However, whether the dynamics of exports or the export surplus is examined, the value of these is probably lower when the exchange rate is overvalued, and if its further rise *is not chiefly based on economic convergence.* In this case the exchange rate becomes a factor hindering the recovery from the recession.

The actual rate of exports, as well as the trade balance are also of particular significance. Where the share of direct capital import is high and it is – unlike in developed economies – not met by the annual volume and the stock of the direct capital export, and, in addition, the amount of foreign indebtedness relative to GDP is also high, net *income outflow* reaches a considerable ratio of the GDP. This proportion in Hungary was more than 7.4 per cent in 2006. We should balance it by an export surplus in goods and services, in order to have a sound external balance. As opposed to this, the actual export surplus including services was a mere 0.4 per cent compared to the GDP in 2006. Seeing this, we cannot state that an exchange rate providing stimulus to the exports of domestic firms has no importance; exports of these firms would actually be assisted by a lower HUF exchange rate.

The conclusion is similar when examining the import side. The high exchange rate supported by an interest rate policy leads to a favourable position for foreign competitors. This mostly aggravates the position of small and medium sized firms. Many of them are unable to face external competition as a result of a highly overvalued exchange rate. They are even forced out of production.

It worsens *also the conditions of employment.* More than half of the corporate employment is catered for by the production of small and medium sized enterprises.[26] Their declining position sets back the demand for investment as well.. It is not even worth using foreign currency based loans at a low interest rate either, if external competition supported by the HUF exchange rate, represents a serious deteriorating factor to the profit expectations for the majority of small and medium sized enterprises.

Therefore, the monetary policy forcing high exchange rate during recession, exerts an adverse effect precisely *at the most sensitive points.* The economy may get through the lower turning point relatively easily if both investment expectations and export conditions are favourable. A decreasing real interest rate and *at least not rising* nominal and real exchange

rates are desirable. Due to the high ratio of exports in Hungary, it is of particular importance that the exchange rate does not curb exports. NBH finds no correlation between the exchange rate and exports because they try to find it in a wrong way!

Putting aside factors affecting inflation adversaly, let us assume that restrictive monetary policy is successful. The inflation rate drops to, say, 3–4 per cent from the earlier 6–7 per cent rate. What happens if both the nominal interest rate and the forint exchange rate stay at the level reached earlier?

In such a case, the real interest rate would become too high, which is obviously unsustainable. The central bank will have to decrease the base rate gradually, which leads to a decrease in the general interest rate level. The question is, what happens to the exchange rate?

If the decrease in the interest rate did not affect the exchange rate, there would be no problem at all. However, NBH could only expect a high exchange rate of the HUF after an essential interest rate cut if the following was true: although a rising interest rate leads to a higher exchange rate, a falling trend of the interest rate does not bring the exchange rate down. Reference to the Czech and Slovakian examples is not a proof.[27]

At this point, we have arrived at the root of the problem. When, owing to the raised interest rate rise and the "strong" forint, the inflation rate has fallen to 3-4 per cent (certain authors refer to the HUF being as "strong as a horse"), NBH is to choose whether to hold the high base rate or to reduce it, thus alleviating the rigour of the monetary policy.

A high nominal interest rate level would represent an overly high real interest rate when accompanied by a considerably slower inflation. Its adverse effect on the economic performance is obvious. The "strong" HUF surely does not favour exports, unlike imports. Due to an overly high real interest rate and exchange rate, both engines of getting out of recession would work *much weaker.* Consequently, NBH cannot keep the high interest rate level, it must decrease it after a relative price stability is reached, or even before that.[28]

Decreasing interest rates would, however, entail a falling HUF exchange rate, because their high value is mostly not rooted in convergence. A falling exchange rate, however, generates inflation. If the central bank retains inflation targeting as its prevailing policy, a monetary curb must be applied again. A policy decreasing the interest rate must be abandoned, and a further decrease in the exchange rate must be prevented again.

It follows, that an artificial exchange rate boost is only temporarily suitable to push the inflation rate down, and the short-time success incurs high costs for the country. (The interest burden is also very high. A 1 percentage point increase in yields caused by raising the base rate – given the present debt burdens – causes a roughly HUF 35 billion extra expense per annum to the central budget). We should not have got involved in the whole procedure! And, if the central bank retained the high interest rate, it would be very difficult to recover from the recession, and the long-term growth rate would be low despite a relatively stable price level. But it is precisely the growth-generating effect of the price stability that is referred to by the NBH to justify the inflation targeting monetary policy.

Forcing an exchange rate rise is a step of very doubtful value. It is particularly doubtful in time of recession. The costs incurred are too high, and the effect is more harmful than useful. It also deteriorates the balance of the central budget. A better choice for the central bank is *not to increase* the interest rate in times of recession, not to force an exchange rate rise, and not to seek a *quick* decrease in the inflation rate. During recession there are factors having spontaneous and inflation reducing effects like the widening "output gap" for instance. It is

better to postpone the fiercely restrictive monetary policy for later. Over a longer period, the inflation rate may attain the targeted low value in this way too. It is not true that the central bank must pursue an *increasingly stringent* monetary policy *even in times of recession.* It is not correct to apply the same monetary policy irrespective of time and space.

ACTUAL PROBLEMS WITH THE HUF EXCHANGE RATE

Decreasing exchange rate, overvalued national currency, economic growth

We have arrived at the conclusion that a lower level of the HUF exchange rate would facilitate higher export performance even in the medium run. NBH practically rejects it saying that a lower HUF exchange rate would drive the cost of imports up, and would accelerate inflation. A lower exchange rate of the HUF would only result in a temporarily more favourable foreign trade balance: the nominal level of costs would soon rise as much, as the amount of revenue the companies could realize in HUF by exports. What is more, the economy would ultimately be worse off, because a permanently higher inflation rate was unfavourable to the dynamics of economic growth.[29] This trail of thought is well known. It can be read in almost all university textbooks dealing with the problem, that devaluation of the currency may only bring a temporary advantage.

This deduction, however, tacitly builds on the assumption that the national currency *is not overvalued.* If however it is, because – say – the central bank has artificially raised the exchange rate through the interest rate policy, *we must arrive at a much more sophisticated* conclusion.[30]

What happens when the exchange rate of an *overvalued currency* decreases? In line with the inverse *J* curve, exports will grow, not immediately but in a relatively short time, due to the value effect becoming determinant. The cheap imports previously resulted from a high currency exchange rate decline, but this ultimately does not have to lead to a proportionate rise in the internal price level. This is because the external pressure supported by an overvalued currency and imposing a burden on the domestic companies otherwise capable of producing efficiently, weakens: *the performance of the corporate sector may grow.* Growing internal supply is a factor that holds the increase of price level back. The result is a higher output level, not only temporarily but also permanently, and a higher employment rate.

In such cases, a lower exchange rate has a favourable effect on the rate *of economic growth.* Whether the currency is importantly over- or undervalued, it affects the economic growth adversely. In the former case, because it leads to a lower utilization of production factors that otherwise could be operated efficiently, while in the latter, it helps utilize also ones that cannot be operated economically. An essentially undervalued currency keeps the development back, while an overvalued one stands in its way. In both cases, economic efficiency is lower than it could be in case of exchange rate being in equilibrium.

NBH debates that the HUF is overvalued.[31] They refer to the currency exchange rates of the other Visegrad countries, but in a wrong way. They disregard it, or do not consider it important enough, that, with them, considerably different processes are in the background of the exchange rate changes in comparison with Hungary. If we consider all these, we find out: arguments of the NBH in favour of sequentially raising the base rate fall one by one. At present, elimination of overvaluation would affect the economy favourably both in the short and in the long run. In times of recession, a further increasing degree of overvaluation has a definitely adverse effect.[32]

Secondary effects of the monetary regulation

What determines what? Is it the exchange rate that basically depends on the proportions of purchasing power of money in different countries, or is it the exchange rate that determines the purchasing power of the national currencies in the different countries? The latter thesis practically implies that the internal price level can be determined by regulating the exchange rate alone, and, by this way, a relatively stable currency can be ensured. If, say, the central bank deems that a HUF/euro exchange rate of HUF240/€ facilitates keeping the average yearly increase of the price level under a 3 per cent ceiling, the only thing to do is to raise the central bank base rate until the necessary exchange rate level is reached.

The connections are complicated. In order to see the interest rate effect and its consequences clearly, here I disregard the effect of the convergence process on the price level. I do so because it does not affect the problem: what happens if the central bank seeks to raise the general interest rate level until the desired exchange rate level is reached?

The problems caused by the rise in interest rate should be pointed out here. We have seen that rising interest rates and a vigorously rising HUF exchange rate bring about a grave situation for the small and medium sized enterprises, and additionally worsen the prospects of employment. Small and medium sized enterprises cannot offset the effect of a strong rise in the exchange rate.[33] This is one of the emerging problems.

The other one: a serious trouble of the Hungarian economy is that the ratio of active wage earners within the entire working-age population is among the lowest in international comparison. *Within the corporate sector,* it is the small and medium sized enterprises that ensure slightly more than half of the total employment[34] i.e. the development of small and medium sized enterprises in the area of the changes in employment is determinative. Considering that increasing the interest rates and the HUF exchange rate adversely affect the position of the small and medium sized enterprises, this policy aggravates the troubles in the low employment level, too. We should not handle the issue of the interest rate, the exchange rate and the inflation detached from the other problems of the economy.

These troubles cannot be handled by demanding that the government develop programmes to alleviate the difficulties of the small and medium sized firms. Development of assistance programmes is not a simple task, it is time-consuming and is not even intended to neutralise the adverse effects of just a forcibly increased exchange rate. These programmes would also entail budgetary burdens.

In sciences, it is a fundamental requirement to harmonise theses. If harmony is achieved, the researcher may still make a mistake, because the premises may be incorrect. But if the theses are contradictory, it is an obvious mistake. This is also true for economic policy. A policy with apparently contradictory elements is to be avoided. Such a policy may result in more cost than benefit. The advantageous result of the anti-inflationary effect of a rising interest rate and exchange rate – the strength of which is uncertain anyway – may be too little compared to the adverse effect of this policy in the area of investment activity, economic growth and employment. First of all in the time of recession.

The central bank cannot pay attention only to decreasing inflation, since – they say – this is their duty in the framework of inflation targeting: all other effects have to be dealt by the government, and any extra costs have to be financed by the central budget. An independent central bank must consider every possible consequence of its decisions. The central bank

should not opt for a policy that imposes an extra burden on the budget. It is always the cost and benefit of the intended decision *at national level* that counts. The cost of NBH's current monetary policy is *well above* the benefit.

This also affects the questions: what is the limit for the central bank in raising the base rate, what is the time limit to seek forcing the inflation rate down to the desired rate, and what exchange rate can be deemed acceptable. The independent central bank, of course, must pass independent decisions on these issues, in a way that preferably does not raise the burdens of public finances. Considering the way *of approaching*, no labour sharing is allowed between the government and the central bank.

The problem of the "strong" HUF

As a result of a sequential central bank interest rate rise, the nominal exchange rate of the forint grew approximately 10–11 per cent against the euro in May 2008. Can we state that the forint is "strong? Is it appropriate to use this attribute when looking at the current strengthening of the nominal exchange rate of the HUF? My answer is in the negative.

Although it is true that tourists can travel abroad cheaper, because they get significantly more foreign currency for a unit of HUF. It is also true that imports have cheapened, which results in a lower inflationary pressure. Those, who borrow foreign currency based loans can pay their debt service at a lower cost in HUF.. It is not so striking anymore that, for instance, the nominal exchange rate of the Czech koruna rose by 47 per cent between 1999 and 2007, while that of the HUF only by 6 per cent. In May 2008, we can already register a 16–17 per cent exchange rate rise in relation to February 2008.

Unfortunately, it is only the exchange rate of the HUF that is "strong". The deficit of public finances is still the highest in Hungary, coupled with the highest ratio of public debt among the former socialist countries joining the EU. In the Visegrad countries, a similar statement may be made about the rate of price rise, which was mostly triggered by over-spending instead of economic convergence. The public debt has grown to nearly two thirds of the GDP. The current recession and a slowing tendency of the economic growth, accompanied by a diminishing trend of investment rate provide no justification for raising the exchange rate. The trade balance normally improves when the country is hit by a recession: it is not correct to over-appreciate the improving foreign trade balance in these times. A special problem is that the net direct capital import is considerably less than the deficit of the income balance. But the HUF is strong, what is more, "as strong as a horse"!

With such an economic background, the HUF actually cannot be strong. Its high exchange rate is based on a high interest rate available for the foreign financial investors. In the Czech Republic and in Slovakia, the nominal currency exchange rates have increased considerably faster and accompanied by *considerably lower interest rates* in comparison with Hungary. Basically, the exchange rate of the HUF has grown because we *pay for it through the high interest rates!*

In reality, the position of the HUF is uncertain. This is also seen in the significant fluctuation of its exchange rate. The HUF referred to "as strong as a horse" reminds me of *Aesopus*' *frog*, "who", in its effort to become as big as an ox, blew itself up until exploding.[35]

The uncertain position of the HUF facilitates speculators pocketing a high profit. Speculative capital partly pockets the high excess in nominal interests over the foreign ones, as well as the exchange rate gains, which certainly represents exchange rate losses for others. These two together yield extra profit,

i.e. extremely huge profits for speculators that speculate well. The nominal interest rate paid on HUF denominated money investments entails a 3–4 per cent extra yield per annum, and the difference in exchange rates has yielded 10 per cent in *one month!* It is a natural aspiration of the speculative capital to realize exchange rate gains as high as possible. It is duly achieved if the purchased securities and/or the HUF are sold *in time.* Of course, they must expect correctly when the financial investments and/or the HUF exchange rate hit the peak or its vicinity.

A risk of occasionally falling exchange rates threatens on a continuous basis. In case of the Czech and Slovak korunas, one need not be afraid of that. While the Czech and Slovak korunas are strong, the HUF exchange rate is unstable. In case of the HUF, a very hectic fluctuation is to be expected in time, instead of a moderate one. It has been so. The exchange rates of the Slovak and Czech korunas have been *dynamically rising* for years, without any significant declines. The nominal exchange rate of the HUF has been hectically and highly fluctuating, with only a moderate rising trend. (However, real exchange rate is rising, mostly fast, as a result of the monetary policy that disregards the fast inflation in HUF). The capricious fluctuations of the HUF exchange rate basically expresses the voluntarist monetary policy.

The "advantage" of a high exchange rate

In the course of my long career, I have often seen: if one has committed oneself to a statement, he/she is willing to bring anything up to protect it. Particularly so if the statement is wrong. He/she is anxious about his/her respect. The central bank is no exception to this.

They state that a high exchange rate does not hinder the development. Neither the expansion of export, nor the economic growth itself. One of the arguments is that the debt service of households indebted in foreign currency is lower due to the higher forint exchange rate. Households can spend more on consumption. This latter one may give stimulus to economic growth. The argument is wrong at multiple points.

❶ Debt service calculated in foreign currency is the same. The same amount of foreign currency can be obtained for the same amount of exports, which brings lower revenue to exporters, considering the high exchange rate of the HUF, and it induces less spending. It is not enough to consider the benefits of households indebted in foreign currency. It is true, however, that a crucial part of exports are carried out by multinational subsidiaries in Hungary, and here, the HUF exchange rate is no determinant factor. So, it is rather the two other factors that are significant.

❷ In Hungary, a too high ratio of loans based on foreign currency presents a grave problem, because it deteriorates the efficiency of the monetary regulation, aggravates ensuring the price stability, and, consequently, it is disadvantageous to the economic growth. Owing to the rising exchange rate, the appeal of loans based on foreign currencies continues rising *under our circumstances.* In addition, the considerable regrouping of revenues caused by the loans based on foreign currency is totally senseless and unjust.

❸ Increased consumption *alone* cannot add dynamism to economic growth. The growth rate depends on the technical development, investments, changes in efficiency, training, the shift of production structure adjusting to the demand in the global market etc as well as on the rising consumption *adjusting to these factors!* If consumption rises simply because, say, the debt service diminishes due to the higher exchange rate of the HUF, or because tourists can purchase foreign currency cheaper, or,

maybe, because the income outflow is accelerating owing to the given the incomes policy – let us say, salary increase is accelerating – it does not lead to additional growth whatsoever, but *only to a slower long-term growth!* The increase in consumption resulting from an improved currency exchange rate may trigger a temporary rise in the production only – even this is not certain either which belongs to the subject of the temporary fluctuations in economic performance, but not at all to the economic growth. It is precisely the Hungarian economy that serves as the best example: accelerating increase in consumption is unsuitable to achieve dynamic economic development. Mixing up these two totally unrelated subjects by responsible leaders can be experienced day by day, and it is a grave mistake. A good knowledge of the real factors of economic growth and competent handling of the real economic interrelationships may protect us from bad decisions.

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Only a strong economy has a strong national currency. The strong HUF cannot be simply a result of the central bank's monetary policy. It requires a prudent, and – of course – not a loose monetary policy not forcing an increasing exchange rate. At the same time, monetary policy has to cooperate with the government's policy in seeking to restore the economic equilibrium. (If the independent central bank wants to do so voluntarily, and if the bank is right in recognising the real correlations, it cannot even be persuaded to do anything else). This, unfortunately, cannot be stated about the current monetary policy. On a "we-show-what-we-can-do" basis, NBH leaps before looking, and carries matters too far in the area of interest- and exchange rate policy. Success is not guaranteed at all, this policy may yield much more cost than benefit. The scientific and theoretical background to this policy is unfounded, without which the radicalism exhibited by the NBH cannot be understood, either.

For a researcher, it is a question of conscience to raise his voice when he sees a mistake. He does not do it to be interfering. He intends to help and warn. This is his duty. I am not beating around the bush, I am raising my voice now. There is no more I can do.

Notes

[1] Imagination often soars free. In response to the restraints announced parallel to publishing the convergence programme, the major opposition party, Fidesz raised scares that the contractionary spiral would rise practically infinitely: restraints would result in lower demand, which causes a lower employment rate, generating an additional drop in income, which is again followed by lower demand and production and so on. In reality, it was only the *growth rate* of GDP that decreased, which alone certainly represents serious trouble.

[2] These are the approximate ratios observable in Hungary, concerning the implementation of the convergence programme.

[3] Such things do exist. Unfinished investments must be carried on if so required by the capital stock deemed desirable for the future. The necessary employment persists. Infrastructure development is based on plans embracing multiple years, and discontinuation of developments may entail more drawbacks than benefits. Contracts must be complied with even if recession has set in the meantime. Compliance with export obligations is an important part of a growth process that persists in time. This may as well generate growth. Production dynamics cannot be understood considering internal economic correlations alone.

[4] It must be added: both affect the size of profit realized at national level, through implementing investments and accelerating exports, *concurrently*. At a national level, net investments, i.e. investments exceeding amortisation represent both expenses and revenues for the corporate sector, but not costs. This is why the growth of investments is accompanied by growing profit for the totality of companies.

Accelerating exports alone rise export surplus, which also increases the revenues of companies. The system of interrelationships is complicated, and cannot be described exhaustively here; the connection, however, is real. It adds to a better understanding of why investments and exports play a crucial role in the creation and then the unfolding of a lower turning point.

[5] Although this correlation is complicated by taxation of corporate profit, the correlation is still valid. This is not discussed here.

[6] The problem is further complicated by the fact that the issue of investments deemed necessary for the coming years is always raised again and again, and interest rates normally change in the meantime. On the other hand, investments that last for multiple years are not affected by this problem, and once investments are started, they must be completed. If subsequent new decisions are passed concerning investment, the motivation behind the decision is identical: the expected profit discounted by the real rate of interest should exceed the interest rate.

[7] For all these, it is assumed that the figure and change of the interest rate palpably affect the dynamics of investments and the total performance of the economy. This problem has been subject to acute debates in economics, and agreement is still not general on the issue. In classical economics, strong sensitivity of investments to interest was taken as an axiom. This is also true for the monetary school. As opposed to these, Keynesian economics stated that the effect of an interest rate change on investments was slight, and it can mostly be deduced from the interest sensitivity of consumer investments and housing constructions. New-Keynesians are much more flexible in this question, stating that the effect of interest rate on investments is significant, which represents a convergence between the two main branches of economics, new-Keynesian and neoclassical, as well as the monetary school. This article also attributes an important role to the interest sensitivity of investments.

[8] Stagflation is generally triggered by some kind of a supply shock. In such times, a certain level or perhaps further growth of aggregate demand is coupled with a level of aggregate supply lower than earlier, and inflation must accelerate. Due to the supply shock, the level of real GDP decreases, consequently, output and inflation take observably opposite courses: decreased production is accompanied by accelerating inflation. A typical case of stagflation was seen in 1973–1974, the recession was triggered by the first oil price boom in the USA and other leading capitalist economies. Stagflation was also experienced in the years 1980–1981 and 1990–1991.
In times of stagflation, monetary policy gets in a sensitive situation. Stagnation or decrease of production causes a problem in the first place. Should the central bank use a monetary curb to control inflation, it does not only reduce inflation, but also sets off further *decline* in economic performance. In such cases, the decision of central banks is basically led by what they consider as the major problem; further decrease of production or continued inflationary price rise, or maybe further acceleration of inflation.
The following is fairly remarkable. If recession is seen to be deepening, central banks often change their monetary policies: they start alleviating monetary stringency in order to avoid more severe recession. Most central banks do not pursue a single goal only, and do not only strive for retention of price stability. This is why stringent monetary restrictions lasting for years are rarely observable. And it is a general experience that the central bank and the central budget do not pursue a restrictive economic policy *concurrently*. In times of stagflation, it is rather a so-called *mixed economic policy* that is applied. While the central bank restricts monetary policy, the deficit of the public finance often increases.
This does not occur accidentally. If, for instance, some kind of supply shock leads to a recession, the state budget must deteriorate because discontinuation or decrease of growth reduces revenues and increases expenses, as a result of built-in stabilizers. Of course, the actual budgetary balance does not necessarily express an intention in economic policy, this may be indicated by *full employment deficit,* or *surplus,* i.e. whether a deficit or a surplus would be generated in the event of *full employment* under the given budgetary structure. Experience shows that the central budget is often expansive even when full employment is assumed, and double restriction is rare.

[9] In this article, I am examining whether or not the present monetary policy raises the danger of stagflation. My answer is confirmative. This does not mean that only monetary policy is to be blamed. A number of other factors may cause stagflation in Hungary, or may entail a relatively low performance of the national economy. Other authors also share this opinion. Mihályi P. (2008)

[10] Garner, C. A., (1987);. Kohn, M. (2003)

[11] The rise of "longer" yields, and the resulting levelling off, lasts until it becomes indifferent from the

aspect of available yields whether an investment is made for a long term in the first place, or repeated short-term investments are made. This implies that short interests must decrease to a minor extent after an initial rise, parallel to rising long interests. The point is that, within the same period, investments in securities of various terms should have approximately equal yields.

12 Garner, C. A., (1987)

13 Erdős T. (2007)

14 Simor András writes: "Examining the path the Visegrad countries have followed in this decade, we have found no correlation between the nominal currency exchange rate and exports; however, a link was found between the exchange rate changes and inflation. Namely, exports increase in this country group at a uniform average rate of 10–12 per cent per year, despite the fact that the Czech and Slovak korunas were nominally appreciated by a total of 25–30 per cent approximately, compared to the euro during this period, and the Polish zloty by roughly 10 per cent, while the nominal up-valuation of the HUF was virtually negligible. Empirical facts, when applied to our region, instead of verifying the theory entitled "a stronger exchange rate equals weakening export performance" that presents overly simplified economic processes, provide evidence to the refutation outright." Simor A (2008)

15 It is referred to in an article by Tamás Bánfi: "Is it permissible to promote an exchange rate that considerably weakens competitiveness in order to achieve the target inflation in a forcible way, irrespective of global developments?" Bánfi T. (2008)

16 Demand also decreases for commodities of inelastic demand, at most at a lower rate compared to the price rise; however, demand turns elastic above a certain price limit. A similar statement can be made concerning commodities of rigid demand: demand for these *above a certain price limit* will decrease.

17 The change in real exchange rate also represents *different rates* of the internal and external inflation. If internal inflation is faster than the external one, the real exchange rate rises subject to the extent of the difference, in case of a given nominal exchange rate. In the opposite case, the real exchange rate falls. If the nominal exchange rate also rises and the domestic inflation rate is also higher than the foreign inflation rate, the increase in the real exchange rate will equal the product of the growth rate of nominal exchange rate and of the quotient of the domestic and foreign price indices. In practice, the category of *real effective exchange rate* is used, which expresses the changes in the real exchange rate against a combination of all important foreign trade partners, instead of just one. This indicator is generally also termed as a competitiveness indicator, because it *suggests*: domestic products may only be exported to yield a customary profit, if the foreign sales prices rise in line with the real effective exchange rate index. And the customary answer to this is: the higher the rate of increase of the abovementioned index, the slighter the chance. We will soon see: it is often not the case for *converging countries.*
Abundant data are available on nominal and real exchange rates in international statistics. Eurostat: Yearbook (2006–2007); (2008); Eurostat: Short-term Statistics (2008)

18 In terms of factors affecting the content of convergence, the other three Visegrad countries, mostly the Czech Republic and Slovakia are much better off compared to Hungary, considering the past few years. In addition, inflationary forces are weaker there. In the Czech Republic, the average annual growth rate of nominal wages per wage earner was 5.5 per cent between 1999 and 2006, as opposed to the 12 per cent in Hungary. The Czech public finance deficit has fluctuated around 2.7 per cent since 2004. The ratio has been similar in Slovakia since 2003. This served as a support to a radical decrease of the inflation rate: in the Czech Republic since 1998, while in Slovakia since 2004–2005. In both countries, short and longer-term interest rates, as well as the central bank base rate are much lower compared to our country. It is also a result of all these: in these two countries, it was not the inflation suppressed by the monetary policy that drove real effective exchange rate up. In the continuation, it will be revealed: the fundamental reason for rising exchange rates in these countries was convergence. U.N. Yearbook of National Accounts Statistics. (2006); Eurostat Yearbook (2008); Eurostat. Government Finances, (2008); Fazekas, K. (2007)

19 Balassa, B. (1964) We do not have an opportunity to describe the BS effect in detail here.

20 In the recent years, the production structure in Slovakia has considerably accelerated. An example of this may be the palpable soaring of vehicle manufacturing. It is only a couple of years that the direct capital import has entered the country's automobile industry in a massive form, still, the

volume of passenger vehicle manufactured in Slovakia has reached a million per year. In Hungary, the current performance is only 300 thousand per year, although Suzuki, for instance, has maintained a subsidiary here for a long time. The domestic vehicle manufacturing would have an economic weight similar to that in Slovakia, if the number of cars manufactured approached *two million.* (The Slovakian GDP is hardly more than half of the Hungarian figure)

21 This problem also has a number of other important implications. The real effective exchange rate index includes the movements in the domestic and foreign consumer price indices. If the consumer price index rises, and the rise is not followed by a subsequent fall, we term it an inflationary price rise. And, improvement in quality and the structural changes often entail increased consumer (and producer) prices. Is it justified to call it inflation in such cases? This issue is raised at any rate, because in this case a price increase does not cause a deterioration of the external competitiveness, as opposed to being the domestic inflation faster than inflation abroad.

22 Different dynamics of the exchange rate and the purchasing power parity can be widely observed, particularly in shorter periods. The fact has an important role in it that the relevant data on emerging and developed economies are mostly seen together, and the data also include the BS effect among the effects concomitant to the process of convergence. Dornbusch, R. (1992); McKinnon, R. I. – Ohno, K. (1997); Krugman, P. R.; Obstfeld, M. (2003); Hall, R. E.; Taylor, J. B. (2003)

23 This is precisely the situation in Hungary. Nominal wages have grown considerably faster than productivity for years, and the growth rate of nominal wages per wage earner was twice or three times higher from 1999 until one or two years ago, compared to the other three Visegrad countries. At the beginning of the decade starting in 2001, the public finance deficit was high in all Visegrad countries, except for Poland, but the other three have seen a dramatic drop in the second half of the decade, in comparison to us. We are still leading in terms of deficit, despite the implementation of the convergence programme. It cannot be stated that we have not had any development in quality and production structure in the meantime. But the actual inflation in Hungary had such a significant role, that the data on the real effective exchange rate indices cannot be mechanically compared in the four Visegrad countries.

24 Krugman, P. (1989); Meade, E. (1988)

25 Directly because the nominal forint exchange rate does not follow a downward trend despite an inflation considerably faster than abroad. If the real exchange rate rises, it always means that the actual (nominal) exchange rate departs upwards of the exchange rate course justified for internal and external inflation rates alone. Or, it can be described as follows: at this point, the change of the nominal exchange rate is departing the purchasing power parity, which is also changing on a continuous basis.

26 ECOSTAT (1997, 1998)

27 It is surprising that illusions concerning the expected forint exchange rate hold even in the financial world. Elimination of the exchange rate band margins has been on the agenda for years in order not to limit a rise in the forint exchange rate. *This alone,* however, cannot trigger a – permanently higher exchange rate. *There must be something that carries the exchange rate up.* Such a factor may be, of course, the interest policy of the central bank. But raising the interest rate in case of an existing overvalued currency – causes more harm. It is only "good" for raising the interest rate burden of the public finances even higher. In Slovakia and the Czech Republic, the exchange rate rose due to the convergence and not to the high interest rate.

28 Monitoring the practice of economic policy in various countries, it is observable that they rarely apply budgetary and monetary restriction in combination. Precisely because avoiding or recovering from a recession is sought everywhere as soon as possible. A frequent practice is the so-called mixed economic policy, whereby, for instance, public finances pursue a restrictive policy, while the central bank an expansive one. This is the more advantageous alternative. The reason is precisely that the overly deficit-generating spending of public finances must necessarily be followed by the restoration of the central budget balance. At the same time, it would be disadvantageous for the growth process if investments were also curbed during the budget restriction. If public finances seek to restore the balance, corporate investments are possibly not restrained. The matching monetary policy is the one, whereby interest rates are not raised at least, but much better if lowered. This generates a shift in favour of investment demand and against consumption demand. It may be fitted into a growth-proper long-term strategy of economic policy.

[29] Bihari P. (2008)

[30] Here we must consider that the exchange rate should coincide with or be close to a price level that foreign customers accept. Foreigners buy our exported commodities together with their opinion on the quality and goodwill established for the country's products. In less developed economies, the price level is always lower than what would follow from the currency exchange rate. This does not preclude that the currency of a less developed country can be significantly overvalued: we cannot put aside what export price can be realistically realized. It is mostly because of quality, production structure and goodwill.

[31] Simor, A. (22 Mach 2008)

[32] I wrote about the correlations between the economic growth potential and the dynamics of the currency exchange rate in detail in my book written about the effect of economic policy on growth. Erdős, T. (2006) pp. 80–85

[33] A 10 per cent rise in the nominal HUF exchange rate means that the revenues of small and medium sized enterprises from export sales decrease by 10 per cent – if they do export. Since the sum of profits and depreciation expressed as a proportion of the sales revenue is lower than that, a 10 per cent or higher increase in the exchange rate eliminates the profits plus depreciation fund of the average small and medium sized enterprises in case of export. This is because they can hardly gain profits from the fact that a higher exchange rate cheapens imports, as they mostly rely on the domestic market when buying. In addition, the situation of the internal market is also deteriorating. Until the high exchange rate persists, an increasing ratio of small and medium sized enterprises are pushed out of exporting It restricts the national export performance too. This reveals: there is connection between exchange rate rise and exports.

[34] ECOSTAT (2007)

[35] The translator of Aesopus's fables from Latin into Hungarian, Gábor Pesti – lived in the first half of the 16th century – wrote about the moral sense of this fable: "A small creature must be satisfied with its smallness, and there is no need to make efforts beyond its capacity". Pesti G. (second quarter of the 16th century).

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