Impacts of the EU Referendum Decision on the Welsh Economy

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Video Presentation: Impact of the EU Referendum Decision on the Welsh Economy.mp4

I. Introduction

Whilst 52% of the Welsh population voted in favour of Britain leaving the European Union (EU) on 23 June 2016 (The Electoral Commission, 2019), the effects on the Welsh economy were greater than initially anticipated. Whilst it has been evident in the years since the vote that the UK economy has suffered in the short-term, as a result of this vote, I intend to analyse the economic effects experienced in Wales.

Between 2021 and 2022, the UK government proposed a plan committing to replacing the EU funding received by Wales (UK Parliament, 2021). It has, however, faced criticism for the delays occurred and "broken promises" over the level of funding, an estimated £1 billion less than if Wales had remained in the EU (Foster & Williams, 2022; BBC, 2022). This paper aims to look at the short- and mid-term effects of the EU referendum decision itself, rather than the long-term effects of the withdrawal from the union. I will focus primarily on the macroeconomic effects of the increased uncertainty through modelling the Welsh economy as a member of a Common Currency Area (CCA).

II. EU Membership & The Welsh Economy

Wales received the highest levels of EU funding across the UK and the country was a net beneficiary of its membership in the EU (Hunt, et al., 2016). The UK contributed a net value of £151 per capita, whilst Wales received a net benefit of £79 per capita for 2014. This funding received was equivalent to around 1% of Welsh GDP that year, with the net benefits accounting for 0.4% of GDP (Statista, 2021; Ifan, et al., 2016).

Between 2014 and 2020, Wales received EU grants under its European Regional Development Fund (ERDF), which aims to "strengthen economic, social, and territorial cohesion in the European Union by correcting [regional] imbalances" (European Commission, n.d.). Wales was to receive around €1.8 billion between 2014 and 2020 via the ERDF, and around €5 billion in total through a collection of programmes (Jones, 2017; Bird & Phillips,

2018). These programmes included "infrastructure and economic re-generation", as well as funds for research and innovation and subsidies for agriculture and fisheries.

III. Literature Review

The withdrawal of EU funding following Brexit could have a "very significant impact", particularly in the underdeveloped regions, such as West Wales and the Valleys. Projects funded under the European Regional Development Fund are "estimated to have created 36,640 new jobs and 11,900 new businesses" between 2007-13. The withdrawal of this funding may stunt future economic growth and job creation. (Hunt, et al., 2016)

A significant portion of the structural funding in Wales has been used to fund apprenticeships and traineeships, with the hope of increasing labour force skills and mobility. £233 million was allocated to apprenticeships in West Wales and the Valleys alone, with an additional £48 million in East Wales. These aim to "reduce regional inequalities" and without replacement, there could be further labour disparities between Wales and the rest of the UK. The Welsh Government will need to replace much of this funding post-Brexit. (Bird & Phillips, 2018)

There are some potential benefits arising from the decision to leave the EU, including the possibility for Wales to "claim ownership of vast swathes of law making". Brexit may "offer a chance to negotiate and ask for more from Westminster in terms of funding and devolved powers" (Jones, 2017). However, if Wales wants to gain access to European funding, partnership opportunities and investment, it must maintain close ties with the EU and its members (Minto & Morgan, 2019).

IV. Macroeconomic Impacts of the Referendum Decision

The referendum created much uncertainty surrounding the EU funding, with an estimated 45% of UK businesses stating that Brexit was one of the top three sources of

uncertainty for their business (Bank of England, 2021). One would expect the increased uncertainty of Brexit to affect investment spending, particularly in both the regions of the country and sectors of the economy that were most dependent upon EU funding. Similarly, one would expect increased job uncertainty and less consumer certainty overall. Consumers may cut back on, or delay, large purchases as a result of this uncertainty.

I model the Welsh economy as a member of a common-currency area (CCA) that has the Bank of England as the area's central bank and a common currency, the Pound Sterling, but has fiscal autonomy, albeit limited. The national-level shocks are dealt with by the central bank through the change in the policy rate, as was the case when the rate was lowered to 0.25% on 4 August 2016 as the "outlook for growth… [had] weakened markedly" as a result of the referendum (Bank of England, n.d.; Bank of England, 2016). Whilst there was an aggregate demand (AD) shock to the whole UK through increased uncertainty, I assume a larger shock in Wales, given the additional reliance on EU funding. To simplify the modelling, I assume that monetary policy stabilisation by the Bank of England has already occurred, and that the remainder of the negative AD shock is that experienced in Wales.

The economy starts from Medium-Run Equilibrium (MRE) at A (*Figure 1*), in which output (y) is at y_e, inflation (π) is at π^{BOE}, the Bank of England's target, and the real interest rate (r) is at r^*. The real interest rate, as indicated by the Fisher equation (Carlin & Soskice, 2015), is given by:

$$r = i - \pi^E$$

where i is the nominal interest rate and π^E is the expected inflation. In this analysis, I will use adaptive inflation expectations, such that:
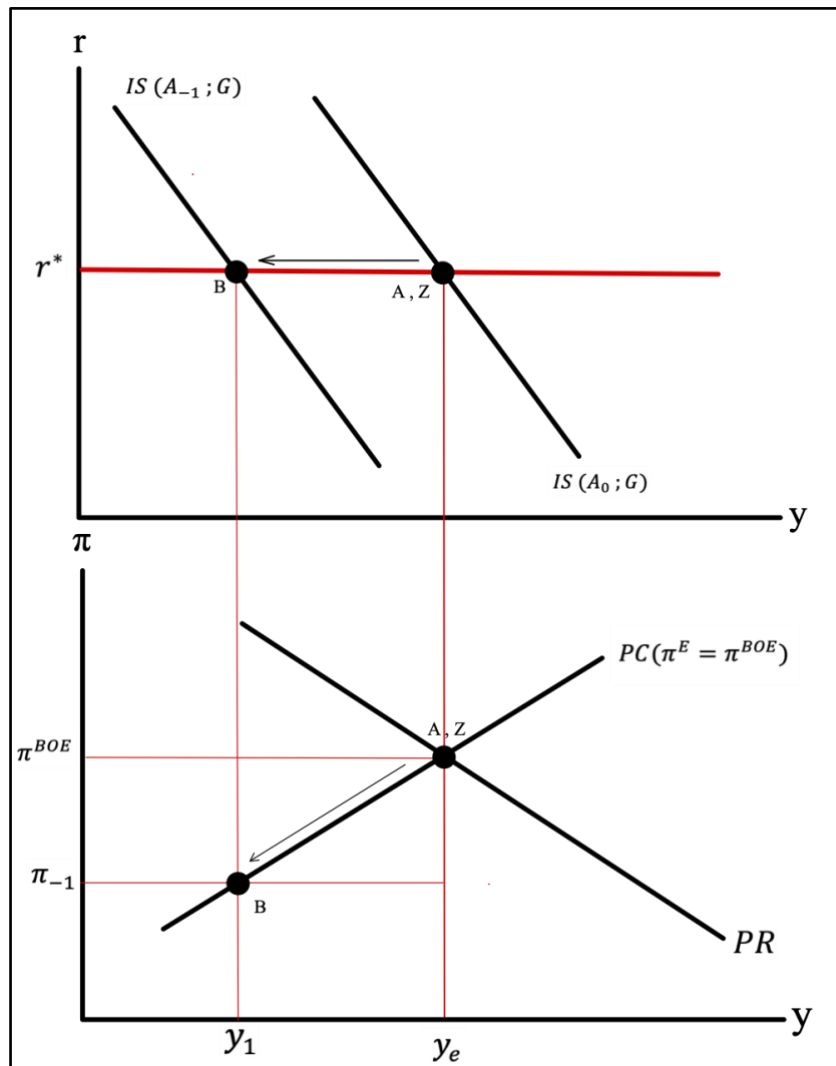
$$\pi_t^E = \pi_{t-1}$$

Figure 1: Macroeconomic Model – Fall in AD from A_0 to A_{-1}

Figure 1 shows that the fall in autonomous consumption from A_0 to A_{-1} shifts the IS curve (Point A to B) from $IS\ (A_0\ ;G\ ;\bar{q}\ )$ to $IS\ (A_{-1}\ ;G\ ;q'\ )$. This causes a fall in the output level, from y_e to y_1, and inflation, from π^{BOE} to π_{-1}, due to a movement along the Phillips Curve (PC). This is supported by the Welsh quarterly GDP growth in *Figure 2*, which shows a quarterly contraction following the Brexit vote.
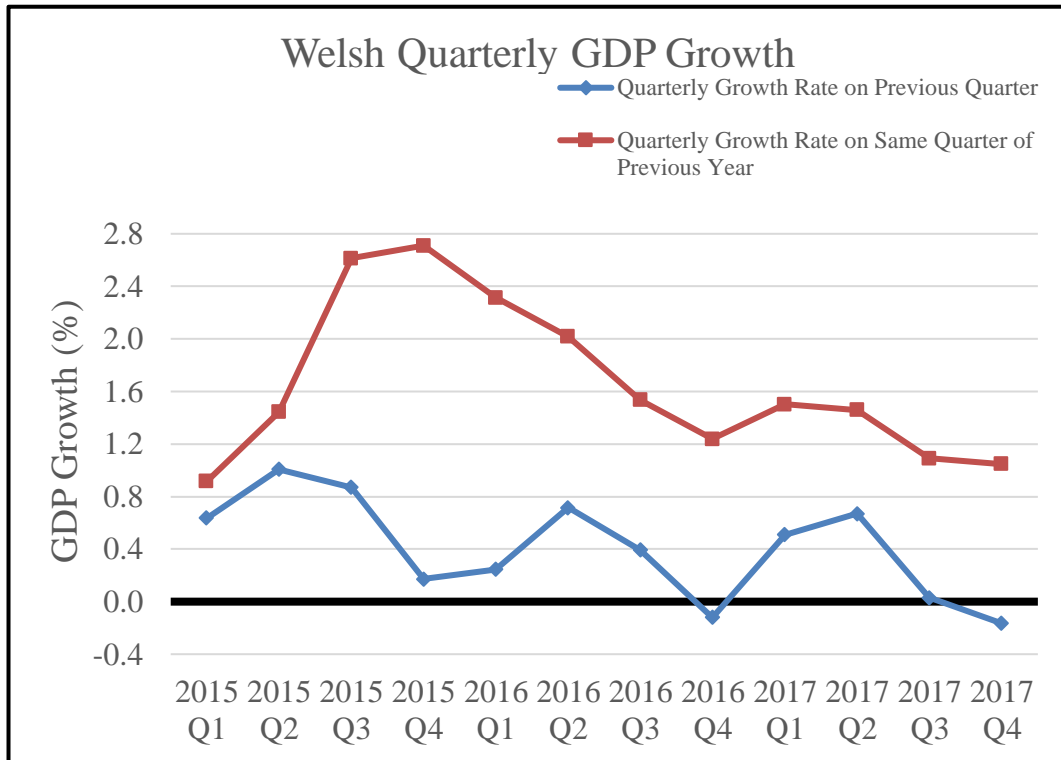
Figure 2: Quarterly GDP Growth in Wales (ONS, 2021)

Without policy intervention, there are two channels of adjustment following this shock (Carlin & Soskice, 2015). The real exchange rate channel relies on the fall in inflation to boost the competitiveness of Welsh goods in the export markets in returning the economy to MRE. The second channel, however, is destabilising. The real interest rate channel results from the changes in r, which is now higher due to the fall in inflation. This further reduces the level of output, causing a downward spiral of inflation and output. Therefore, to avoid the slow and potentially destabilising process, the Welsh government must introduce expansionary fiscal policy.

I will use the Policy Rule (PR) curve, which minimises the loss function of the Welsh government:

$$L = (y_t - y_e)^2 + \beta(\pi_t - \pi^{BOE})^2$$

where β is the inflation-aversion of the central bank and π^{BOE} is the Bank of England's inflation target.

The PR curve is given by:

$$y_t - y_e = -\alpha\beta(\pi_t - \pi^{BOE})$$

where α is given by the slope of the Phillips Curve. The PR curve will give the optimal output gap to minimise the loss function.
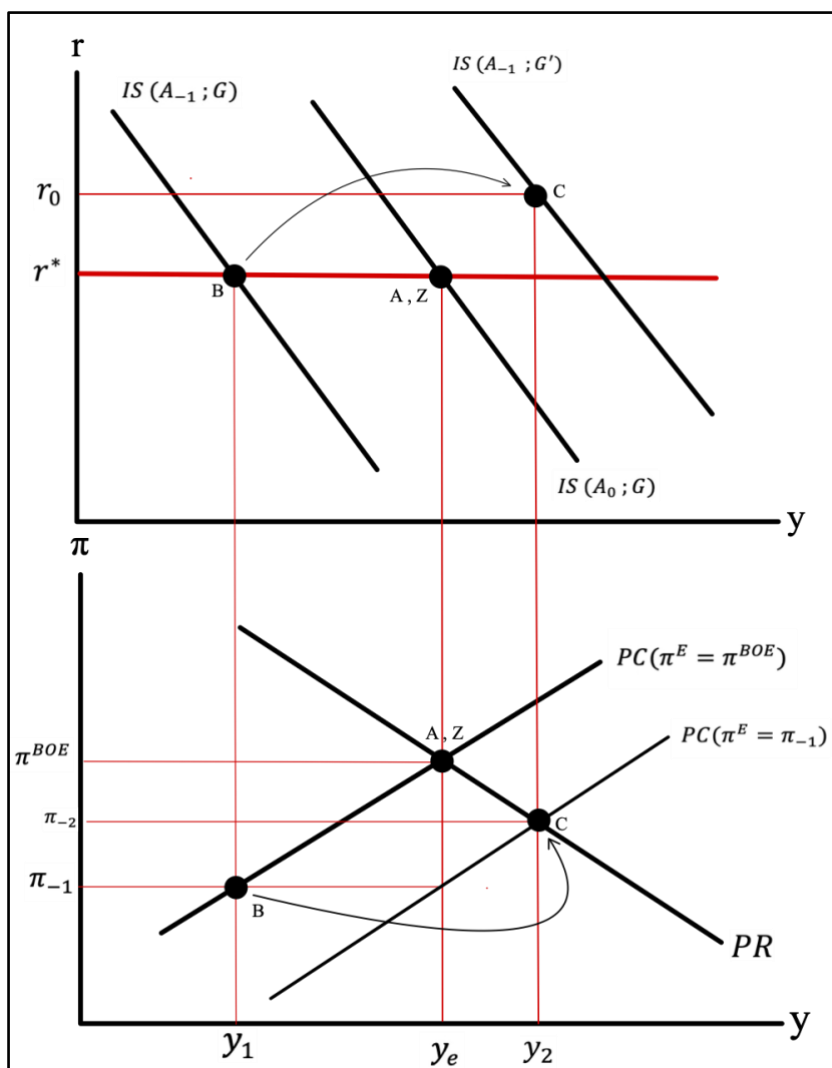

Figure 3: Macroeconomic Model – Increase in Government Spending from G to G'

The economy needs to move to Point C (*Figure 3*) through an increase in fiscal spending from G to G', which is needed to replace the lost spending from the fall in autonomous

spending. As inflation has fallen, the real interest rate is now higher, at r_0. Output is higher than equilibrium to allow for the return of inflation to π^{BOE}.

Figure 4 shows the adjustment back to MRE from Point C via a gradual easing of the level of government spending. The IS curve shifts every period until MRE (Point Z) is reached, due to the reduction in government spending and the changes in the real interest rate. At Point Z, there is a higher level of G than initially, which offsets the lost output from the initial shock.
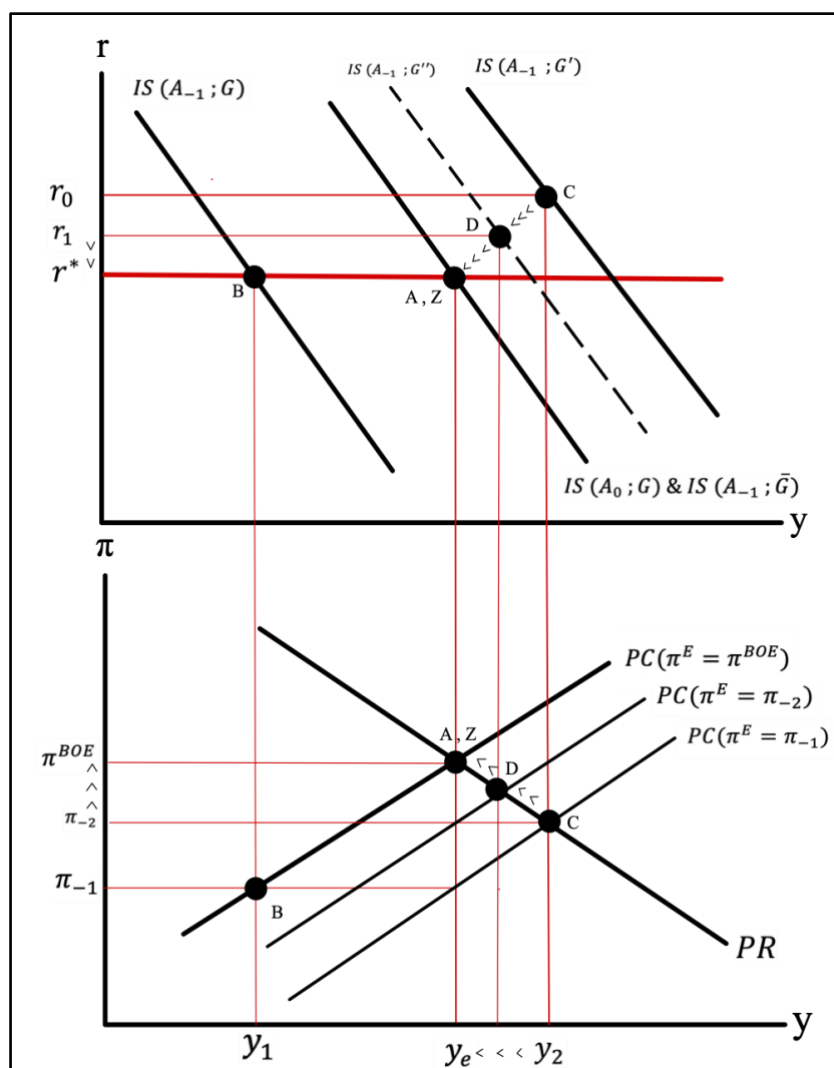

Figure 4: Macroeconomic Model - Adjustment Back to MRE

In *Figure 5*, we see that there is a depreciated real exchange rate as a result of the shock. This also offsets some of the government spending. The final level has depreciated from $\bar{q}$ to $\bar{q}'$ due to the permanently lower price level, as despite the return to π^{BOE}, the price level in the economy may be lower due to inflation being below target over the adjustment period. We see an increase in the Welsh exports following the referendum (*Figure 6*), suggesting that there could be a depreciated real exchange rate offsetting some of the government spending necessary for a return to MRE.
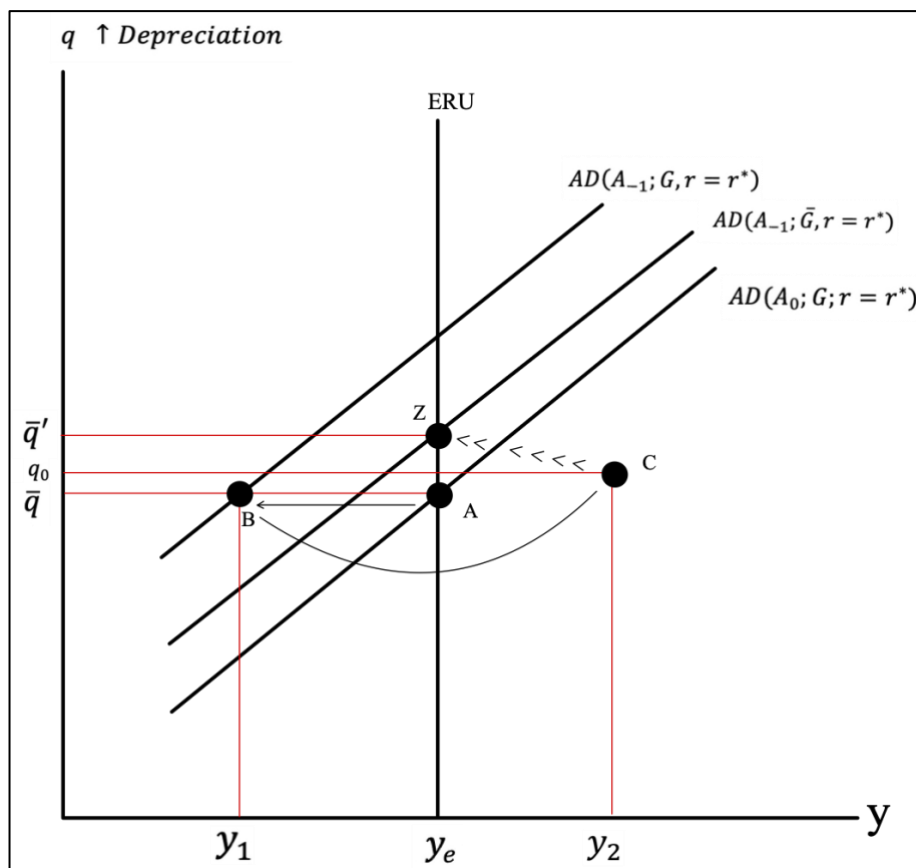

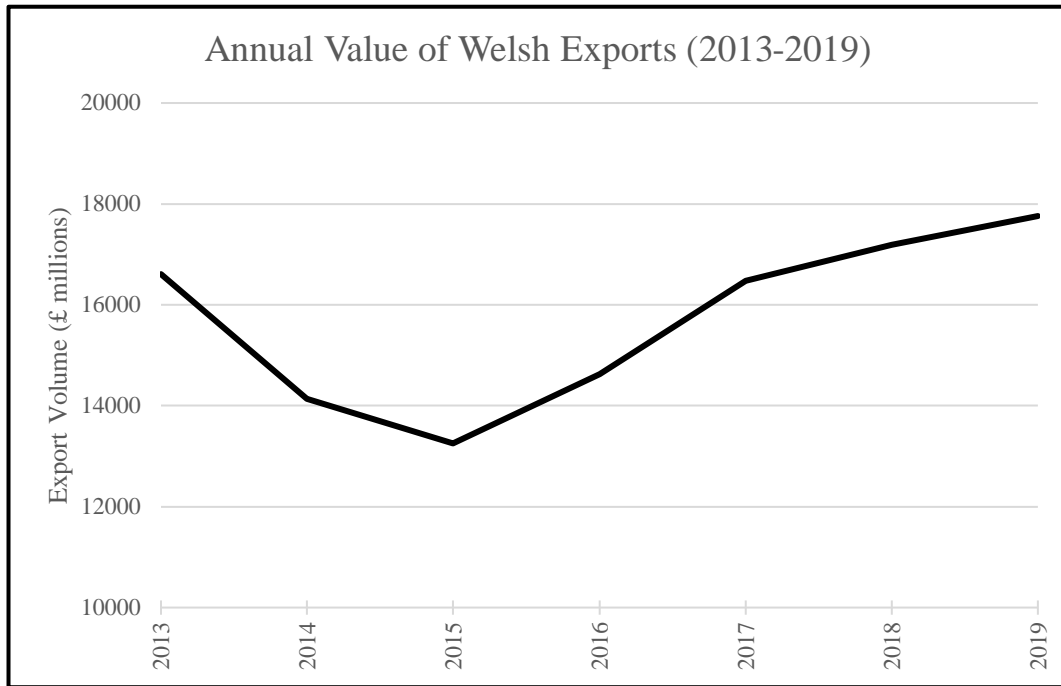*Figure 5: AD-ERU Diagram for Adjustment*

Figure 6: Annual Value of Welsh Exports (StatsWales, 2022)

V. Conclusion

The EU funding was vital to the Welsh economy and, thus, the surrounding uncertainty has clear macroeconomic implications. We see a significant increase in fiscal spending needed to offset the shock, causing a permanently increased level of government spending until the uncertainty eases, providing this occurs.

A reassuring and comprehensive funding plan by the UK government is needed to ensure the growth and development of the Welsh economy. Without this, the level of private investment in Wales may fail to return to its initial levels, stunting growth. Furthermore, the sustainability of long-term increased government spending in Wales must be questioned. This is considerably more difficult for Wales given the limited control over its fiscal policy, with central government setting rates. Though, a block of funding received by the UK government would give the Welsh government more flexibility in their funding decisions, potentially increasing the effectiveness of the spending. (Foreman-Peck, 2018)

There remains the possibility of further shocks following the UK's leaving of the EU, much of which depends on the securing of funding from the UK government, as well as the potential for Wales to maintain ties with Europe to access funding.

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