Response to comments made on the paper titled "Welfare, employment and hours of work."

I thank Mr Anonymous (A) for his comments.

The contribution of the paper is better explained in the response to the referee. But, basically, the model shows whey Europeans may like fewer hours of work in comparison to U.S. workers. Strong unions and higher social benefits in Europe raise wages relative to productivity, which increases the opportunity cost of leisure due to a higher level of consumption, consumption being time consuming. Firms' profits fall and they post fewer vacancies, which reduces employment. So instead of presuming cultural differences as in Blanchard (2004), we try to explain the greater desire for leisure by Europeans using an insight about consumption requiring time that goes back to Becker.

What we suggest may be a factor in explaining the fewer hours of work but by no means explains everything nor precludes other explanations. This is an idea to be tested.

Returning to the comments Clearly Mr A does not like the paper but most of the reasons he mentions do not quite hold up. Below we respond to his comments:

• Mr A starts by saying that the papers starts with misleading claims about aggregate labour markets.

Below there are tables on annual hours, unemployment rates, trade union density and social benefits to households for the period 2000-2016 taken from the OECD (www.oecd.org). One can see that average hours in Europe are fewer than in the US, the UK and New Zealand and average unemployment is higher for the period 2000 to 2016. This is what is claimed at the beginning of the paper.

• Mr A then claims that we do not realise that unemployment rates (U) are very poor indicators of labour market conditions compared to labour force participation rates (P).

This comment does not make sense. This should not have to be explained. Those out of the labour force are by definition not searching for a job and hence do not justify a model of search unemployment. Besides, comparing labour force participation across countries is problematic because of differences in women's labour force participation across countries that have more to do with culture and institutions, such as child care, than the conditions of the labour market. Finally, the comment would throw all studies of unemployment off the table, which is probably not a good idea.

• Mr A claims that hourly real wages have not risen in the US since about 1980 and in the UK since 2007 due to austerity and growing employer market power, both of which are not captured by the model.

We say nothing in the paper about the evolution of real wages over time and I do not know why this comment is made. Yes, a lot of things have happened in the world which are not mentioned in this paper nor part of the model. And the development described in the comments is certainly important.

• Mr A says that footnote 1 quotes unemployment and work time from 2012, soon after the Great recession, which is grossly untypical for long term values although up to date values are available.

It is difficult to find a "typical" year. The years before the crisis in 2008 were hardly typical with booming economies caused by credit expansions and rising house prices. Current numbers are also not typical since employment is maintained at high levels with close to zero interest rates in many countries.

The numbers in the table below show that the numbers in footnote 1 and elsewhere that are used to motivate the model are consistent with any year from 2000 to 2016.

• Mr A claims that we ignore widespread unpaid overtime. Also that we never mention that *P* for Iceland, which is not in our sample, is higher than *P* in the US and the UK, while *P* in the US is lower than in most EU countries except Germany.

Yes, there may be unpaid overtime. But this hardly justifies discarding OECD numbers on hours worked. This is the best estimate that we have for hours. Regarding participation, then that point was addressed above. Male participation has declined in the US since the 1950s but this is not the focus on the paper. We can still assert that there are proportionately more unemployed people looking for work in Europe than in the US.

• Mr A says that high unemployment in the Nordic countries is due to macroeconomic factors not mentioned but not to high welfare spending.

On this point we agree with Mr A and will take his point into account when revising the paper. The Nordic welfare state is organized so as to maintain high employment. • Mr A says that the UK and the US suffer from a long-hours culture that is not mentioned, instead of enjoying the complementary of leisure and consumption available to all in the high tax egalitarian Nordics.

Our model provides a possible explanation why hours are longer in the UK and the US than in Europe. Unions increase workers' bargaining power and push up wages, and social benefits have the same effect on wages, and higher wages increase the enjoyment from leisure. Hence we are trying not to have to use cultural explanations.

Our explanation may have empirical validity. Certainly, as shown in the tables below, the European countries have fewer hours, more unemployment, stronger unions and more social spending. But then other explanations may also work. But surely one has the right to propose models that link the observed facts together!

Countries	2000	2002	2004	2006	2008	2010	2012	2014	2016
Europe									
France	1,445	1,401	1,430	1,417	1,447	1,439	1,441	1,425	1,423
Germany	1,360	1,345	1,335	1,344	1,340	1,310	1,301	1,300	1,298
Italy	1,696	1,672	1,657	1,652	1,653	1,616	1,580	1,566	1,577
Spain	1,705	1,723	1,700	1,675	1,668	1,667	1,654	1,643	1,653
Average	1,551	1,535	1,530	1,522	1,527	1,508	1,494	1,483	1,487
Comparison									
countries									
United Kingdom	1,680	1,668	1,642	1,644	1,642	1,632	1,638	1,667	1,660
United States	1,831	1,806	1,799	1,797	1,792	1,781	1,791	1,790	1,787
New Zealand	1,777	1,769	1,796	1,767	1,739	1,741	1,723	1,760	1,740
Average	1,763	1,748	1,746	1,736	1,724	1,718	1,717	1,739	1,729

Hours of annual work in dependent employment

| Unemployment rate (%)

	2000	2002	2004	2006	2008	2010	2012	2014	2016
Europe									
France			8.5	8.4	7.1	8.9	9.4	10.3	10.1
Germany	7.8	8.7	9.8	10.3	7.5	7.0	5.4	5.0	4.1
Italy	10.6	9.0	8.0	6.8	6.7	8.4	10.7	12.7	11.7
Spain	13.9	11.4	11.0	8.5	11.2	19.9	24.8	24.4	19.6
Average	10.8	9.7	9.3	8.5	8.1	11.0	12.6	13.1	11.4
Comparison countries									
United Kingdom	5.6	5.1	4.7	5.3	5.6	7.8	7.9	6.1	4.8
United States	4.0	5.8	5.5	4.6	5.8	9.6	8.1	6.2	4.9
New Zealand	6.2	5.3	4.0	3.9	4.0	6.2	6.4	5.4	5.1
Australia	6.3	6.4	5.4	4.8	4.2	5.2	5.2	6.1	5.7
Average	5.5	5.6	4.9	4.7	4.9	7.2	6.9	5.9	5.1

Source: OECD (www.OECD.org)

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Countries	2000	2002	2004	2006	2008	2010	2012	2014	2016	
Europe										
France	10.5	10.5	10.5		10.7	10.8				
Germany	24.6	23.5	22.2	20.6	19.0	18.9	18.3	17.7	17.0	
Italy	34.4	33.4	33.6	33.1	33.4	35.5	36.3	36.4	34.4	
Spain	16.5	16.0	15.3	14.3	17.1	17.2	17.0	15.6		
Average	25	24	24	23	23	24	24	23	26	
Comparison countries										
United Kingdom	29.8	28.8	28.8	28.3	27.5	26.6	26.1	25.0	23.5	
United States	12.9	12.8	12.0	11.5	11.9	11.4	10.8	10.7	10.3	
New Zealand	22.4	21.8	21.7	21.8	21.4	21.4	20.3	18.5	17.7	
Australia	24.7	23.1	22.7	20.3	18.9	18.3	18.2	15.1	14.5	
Average	22	22	21	20	20	19	19	17	16	
Social benefits to households (% of GDP)										
Countries	2000	2002	2004	2006	2008	2010	2012	2014	2016	
Europe										
France	16.8	17.2	17.4	17.6	17.6	19.2	19.5	20.0	19.9	
Germany	17.4	18.0	18.1	17.1	15.8	16.7	15.6	15.4	15.4	
Italy	15.8	15.9	16.2	16.3	17.0	18.6	19.3	20.2	19.9	
Spain	11.7	11.6	11.6	11.3	12.3	15.1	16.2	16.5	15.6	
Average	15	16	16	16	16	17	18	18	18	
Comparison countries										
United Kingdom	11.3	11.7	12.1	11.7	12.4	14.3	14.5	13.8	13.4	
United States	10.3	11.5	11.6	11.6	13.2	15.3	14.5	13.8	13.4	
New Zealand	11.1	10.0	9.1	9.6	10.4	11.0	10.7	10.0	9.5	
Australia	8.4	8.0	8.1	7.5	8.9	7.5	7.8	8.0	7.4	

Trade union density (% of labor force)

Source: OECD (www.OECD.org)

Average

Note: Since union coverage is much higher than density in France we omit France when taking the average of the trade union density numbers for Europe.