

## HOUSING PERMITS AS AN ADVANCE INDICATOR OF HOUSING INVESTMENT

1. Housing permits can be a useful leading indicator for housing investment, although the relationship is not such that a percentage change in permits translates into an equivalent percentage change in housing investment. This note reports empirical work to quantify the relationship between permits and housing investment.

2. For each OECD country for which data is readily available, the change in (logged) residential investment was regressed on an intercept and up to four lags of the change in (logged) residential permits and up to four lagged dependent variables. Dummy variables were added for outliers. Where estimation over the full sample of available data led to failure of diagnostic equations, the sample estimation period was shortened. For a few countries (United Kingdom, Ireland, Korea and Netherlands) it is difficult to discern any simple stable historical relationship between residential investment and permits. For the 15 OECD countries for which data are readily available and it is possible to estimate a reasonable equation, the estimated long-run elasticity between building permits and residential investment is always well below,

### Summary of equations explaining housing investment with permits

	Sample estimation period	% of long-run adjustment in contemporaneous quarter	Long-run elasticity of housing investment with respect to permits <sup>1</sup>	Adjusted R-Squared	Dummy variables
Belgium	69:2 - 07:2	12%	0.52 ***	0.75	
Canada	85:1 - 07:3	36%	0.47 ***	0.57	
Germany	91:2 - 07:3	0%	0.24 ***	0.49	96:1 - 06:1
Denmark	66:3 - 07:3	10%	0.34 ***	0.52	00:1
Euro area	94:4 - 07:4	0%	0.21 **	0.60	96:1 - 97:1
Finland	81:2 - 07:3	23%	0.43 ***	0.51	86:2
France	95:1 - 07:3	0%	0.17 ***	0.38	
Greece	96:2 - 06:4	5%	0.28 ***	0.93	05:1
Japan	90:1 - 07:3	32%	0.17 **	0.32	
Norway	91:2 - 07:3	29%	0.31 **	0.38	97:4
New Zealand	74:3 - 07:3	64%	0.61 ***	0.45	
Spain	94:2 - 07:3	18%	0.56 **	0.22	
Sweden	98:1 - 07:3	0%	0.18 ***	0.38	01:4
Turkey	88:1 - 06:4	12%	0.60 ***	0.48	
United States	61:1 - 07:3	32%	0.63 ***	0.74	

1. "\*\*\*\*", "\*\*\*" denotes significance of elasticity at the 1% and 5% levels, respectively.

Source: OECD calculations.

unity, as summarised in the Table below; for some countries (the United States, Canada, Belgium, New Zealand, Spain and Turkey) the elasticity is in the range 0.5 – 0.6, but for most other countries (Germany, Denmark, France, Greece, Japan, Norway and Sweden, as well as the euro area) the elasticity is in the

range 0.15 – 0.3. Elasticities substantially less than unity can be explained by the fact that housing investment also covers expenditure on repairs, extensions which don't require permits as well as multi-dwelling housing.

3. An additional one or two month's data on housing permits is typically available prior to the release of national accounts data on housing investment, although first releases of housing permit data may not always have full coverage which can bias the results in the direction of suggesting lower housing investment. The usefulness of permits as an advance indicator also depends on how far permits lead investment; for nearly all countries less than one-third of the long-run adjustment of investment to permits takes place in the same quarter.