Research Working Papers

Borrowing Based on Great Expectations: Evidence from the Origins of Fracking

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Owners who leased natural gas rights in the mid-2000s expected large payments and so borrowed thousands of dollars.

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We use the origins of fracking to study how people respond to a large and uncertain permanent income shock. Following the arrival of news in 2003 that fracking was commercially viable, the average person owning rights to natural gas deposits in the Barnett Shale could plausibly expect to earn a present value of about $33,000 from leasing the rights to energy firms. Anticipating the income, people who signed leases after 2006 borrowed $5,400 more than non-leaseholders as of 2006. Leases not yet signed could not be collateralized, suggesting that expectations of increased permanent income rather than relaxed credit constraints drove leaseholder borrowing. A consumption smoothing model that uses observed well productivity and Hotelling's rule for pricing non-renewable resources suggests that borrowing as of 2006 was rational to conservative. When natural gas prices unexpectedly crashed during 2009-2019, leaseholders reduced their debt and had delinquency and bankruptcy rates that indicate limited financial distress, suggesting that their borrowing prior to signing a lease was not impulsive.

JEL classifications: D12, G51, Q33

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