The Mackenzie Study: February 2021 Progress Report

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Executive Summary

- Two surveys were designed to measure entrepreneurial leadership capabilities among participants in the Kellogg and Nuffield Rural Leaders Programmes. The Benchmark Survey is collected only at the beginning and end of a participant's programme. The so-called Iterative Survey (IS) is designed to measure the same individual's entrepreneurial capabilities at up to 7 different points in time and thereby longitudinally measure within-person change, which is the gold standard in survey design and programme evaluation.
- The entry-point Benchmark Survey and two Iterative Surveys have now been collected from the Kellogg 43 and Nuffield 2021 cohorts.
- The Iterative Survey, referred to as the Entrepreneurial Capital Assessment Tool (ECAT) contains 28 "instruments" (each consisting of one or more survey questions) covering four broad areas:
    - individual soft skills
    - entrepreneurial networks
    - tolerance for risk and uncertainty & time preferences
    - entrepreneurial intentions and behaviours
- The data show that after the initial 9-day Phase 1 (which included both the Kellogg and Nuffield cohorts):
    - Significant gains in entrepreneurial networks, trust and confidence in the information they provide increased the most (16 to 22%). After only 9 days, this is an important and positive sign of participants deepening and improving the quality of their networks.
    - Large-magnitude gains in the self-assessed likelihood of founding a new start-up (12.1% over baseline).
    - The percentage of respondents who said they were "currently setting up a new business" rose from 6.7 to 20.0% -- a 13.3 percentage-point gain, or 200% increase over baseline.
    - Significant gains in self-efficacy, tolerance for uncertainty and time consistency.

  Table 2 (see page 7) shows that total entrepreneurial capability increased by 4.8% following Phase 1. To put the magnitude of this gain into perspective, it is useful to compare this 9-day gain with annual percentage gains in labour productivity or total productivity at the firm- or macroeconomic levels. (The survey instruments used in this study have been selected, with guidance from MBIE, to represent the micro-foundations of productivity growth.) New Zealand's most recent annual rate of labour productivity growth is 0.5, which is nearly twice its long-run average of 0.252 (1979-2020). Thus, a 9-day gain of 4.8% is extraordinarily good even on much longer time scales. It is larger than the largest-ever annual rate of productivity growth (3.2 in 1995). It is 9 times the most recent and 19 times the long-run average annual rate of productivity growth.

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This document summarises work conducted in the first two months of The Mackenzie Study and reports preliminary results from the first two rounds (out of seven planned in total) of an Iterative Survey that measures entrepreneurial leadership capabilities. The goals of The Mackenzie Study are to:

- measure within-person growth in entrepreneurial-leadership capabilities caused by participation in the Kellogg Rural Leadership Programme or the Nuffield Farming Scholarship Programme;
- create an informational asset for The Mackenzie Charitable Foundation that demonstrates both correlation and causation between participation in one or both of these elite leadership programmes and participants' achievements in entrepreneurial leadership that significantly exceed what they would have been predicted to have achieved without the benefit of participating in the programmes;
- create a longitudinal database tracking participants' capabilities and achievements into the future;
- survey the alumni of both programmes to understand how their profiles of capabilities, social networks and knowledge across different stages of their careers predict their professional achievements, leadership roles in industry, community and society.

This Iterative Survey is referred to as the Entrepreneurial Capital Assessment Tool (ECAT). It consists of 29 survey instruments drawn from the academic literatures in economics, psychometrics, leadership and entrepreneurship. These instruments provide a multi-dimensional and evidence-based profile of entrepreneurial leadership capabilities, entrepreneurial social networks and entrepreneurial behaviours. By assessing an individual's ECAT profile at multiple points in time (e.g. before and after participating in a leadership programme), the effects of participation in the leadership programme can be measured far more precisely than with a single exit survey.

When undertaking self-development of any kind, we all begin in different places and exhibit a wide range of variation in the experiences that we bring to that undertaking. Leadership programmes need to assess the effects they have had on participants. When relying solely on an exit survey, a programme cannot know whether a high level of achievement by their participants was caused by the programme or rather was the result of the high levels of ability and achievement that the participants began with when they entered the programme.

This insight regarding the methodological advantages of before-and-after metrics which measure within-person changes (i.e. individual growth) in entrepreneurial leadership capabilities motivated the use of ECAT for The Mackenzie Study. Each individual's ECAT profile reveals how that person's capabilities, networks and behaviours developed while participating in the Kellogg Rural Leadership Programme or the Nuffield Farming Scholarship Programmes.

In consultation with Chris Parsons and Lisa Rogers, Professor Hamish Gow and I adapted the ECAT survey instrument from an MBIE project I lead focused on measuring Entrepreneurial Capital (EC) to be used as The Mackenzie Study's Iterative Survey, asking the same survey questions to participants repeatedly to track entrepreneurial capability over time. (For a definition of EC, ECAT and numerous academic references providing rationale for it, see the attached document "Measuring Multiple Dimensions of Entrepreneurial Capital (EC), 2021 9 February Annex Amended" (by MBIE's Ron Clink and myself).) We added several new survey questions and multi-question instruments focused on

leadership and agribusiness, and we omitted several instruments which we agreed were already sufficiently covered by other instruments.

Because the Kellogg Rural Leadership programme consists of three intensive one-week phases over the course of six months, we decided to measure ECAT profiles before and after each of these three phases, plus a final Iterative Survey six months after programme completion (roughly 12 months from the time of entering the programme). The Benchmark surveys collect demographic information, a widely used survey instrument measuring leadership skills, big-5 personality and 11 objective questions testing numeracy, impulsivity and financial literacy. The survey design is shown in Table 1, with the six surveys already completed highlighted.

Table 1: Mackenzie Study Survey Dates at which each participant takes Benchmark Surveys (at entry and following programme completion) and up to seven Iterative Surveys (IS) before and after each phase of their respective programmes, with follow-up surveys again at six months following programme completion (12 months from entry in the six-month Kellogg Programme and 18 months from entry in the one-year Nuffield Programme); highlighted surveys already completed

		Kellogg 43		Kellogg 44		Kellogg 45		Nuffield 2020		Nuffield 2021	
	IS#	Benchmark	Iterative	Benchmark	Iterative	Benchmark	Iterative	Benchmark	Iterative	Benchmark	Iterative
Phase 1	1	28-Jan	27-Jan	5-May	3-May	24-Jun	21-Jun			28-Jan	28-Jan
	2		4-Feb		13-May		1-Jul				11-Mar
Phase 2	3		11-Apr		1-Aug		5-Sep				
	4		17-Apr		7-Aug		11-Sep				
Phase 3	5		10-Jul		23-Oct		27-Nov	3-Nov-21	3-Nov-21	3-Nov-21	3-Nov-21
	6	28-Jul		5-Dec		24-Jan					
Six-Month-from-Exit Follow-Up	7	28-Jan-22	10-Jan-22	5-May-22		24-Jun-22		1-May-22	1-May-22	1-May-22	1-May-22

The Mackenzie Study's ECAT

The Mackenzie Study's ECAT consists of 28 instruments, some of which are from the Danish Foundation for Entrepreneurship's Assessment Tools and Indicators for Entrepreneurship (ASTEE) survey, which can be grouped into four broad categories (in italics):

- *individual soft skills*: 8 instruments measuring *non-cognitive* or entrepreneurial-leadership soft skills, including
    - CoreSelfEvaluation (locus of control, self-esteem, positive sentiment toward self, self-efficacy),
    - SelfEfficacyASTEE,
    - EntrepreneurialMindsetASTEE,
    - AdaptabilityASTEE,
    - EntrepreneurialAttitudeASTEE,
    - Grit (Duckworth et al.),
    - FlowAtWork (Swedish Proneness for Flow Questionnaire),
    - FlowAtLeisure;
- *entrepreneurial networks*: 6 instruments measuring the size, quality, trust, frequency of interaction and attitudes toward mistakes or `connection' of each respondent's entrepreneurial networks:
    - NetworkSize,

    - NetworkConfidence,
    - NetworkTrust,
    - TrustGame (experimental economics),
    - NetworkInteractionFreq,
    - NetworkConnectionASTEE;
- *tolerance for risk and uncertainty & time preferences*: 7 instruments measuring tolerance and appetite for risk taking and uncertainty as well as time preferences (patience and time consistency):
    - RiskToleranceLowStakes (Eckel-Grossman),
    - RiskToleranceHighStakes,
    - RiskToleranceSelfDescribed (Dohmen et al.),
    - RiskToleranceBoxBombBRET (Max Planck Institute-Jenna),
    - UncertaintyToleranceElsberg,
    - Patience,
    - TimeConsistency;
- *entrepreneurial intentions and behaviours*: 7 instruments measuring entrepreneurial intentions and behaviours:
    - HowLikelySelfEmployed,
    - HowLikelyStartup,
    - EC_Erikson (Erikson's 2002 Entrepreneurial Capital),
    - IndependenceFromLabourMktASTEE,
    - IntrapreneurialJob,
    - CurrentBusinessOperator,
    - CurrentlySettingUpBusiness

The Benchmark survey was given separately, recording demographic information, professional information including which sector(s) of NZ's agricultural economy the respondent worked in, leadership, personality and 11 objective or 'right-or-wrong' questions measuring cognitive skills related to entrepreneurial capability, which will be reported on in fuller detail in future reports as the number of respondents increases.

Response rates in the surveys so far

The Kellogg 43 Cohort consists of 23 individuals, and the Nuffield 2021 Cohort consists of 5 individuals, for a total of 28. One participant opted out of the Benchmark Survey 1. Three participants non-responded to the Iterative Survey 1 (IS1). Eight non-responded to IS2. Another two individuals had high rates of item non-response, completing only 21% and 9% of questions on their surveys, respectively. The main results of interest focus on the subset of individuals for whom we have paired responses (i.e. non-missing responses on IS1 and IS2). This matched or paired sample size varies between 14 and 18 (as seen in Table 2 (page 7)), depending on the instrument because if any respondent non-responded to one question used in that instrument, then that respondent's observation for the instrument is missing.

Results so far: Tables 2 and 3

Table 2 shows within-person mean differences (IS2 minus IS1) in percentage points (4th column from the right labelled "Mean percentage-point Difference") and relative percentage changes (3rd column from the right labelled "% Change"). For example, a change in an ECAT instrument from 5% to 7% (of its theoretical range) can be described either as a 2-percentage-point increase or a 40% increase ((7%-5%)/5%). The next-to-last column in Table 2 is a two-sided p-value estimating the probability of seeing the data we saw under the null hypothesis of no difference between IS1 and IS2. If the p-value is less than 0.100 or 0.050, then we can report that the observed change was statistically significant at conventional levels. Although the quality of the statistical evidence will improve substantially once we have three cohorts and a sample size of at least 30 to 50 respondents, the results in Tables 2 and 3 already demonstrate several large-magnitude and/or statistically significant within-person changes associated with the one-week Phase 1 for the Kellogg 43 and Nuffield 2021 cohorts, as summarised below.

- CoreSelfEvaluation[1] increased significantly from 62.9 to 66.5 (on a the normalized 100-point Core Self-Evaluation scale), achieving a significant (p = 0.054) increase of 3.6 percentage points, or a 5.7% gain over baseline.
- SelfEfficacyASTEE (as measured by the Danish Foundation for Entrepreneurship's well-validated survey instrument) increased similarly from 80.9 to 83.5, achieving an increase of 2.5 percentage points, or 3.2% over baseline (achieving statistical significance at the 10% level in the one-sided t test of the null hypothesis of zero mean within-person change in the matched sample under the column heading "p-upper", p-upper = 0.069).
- Gains in the quality of respondents' entrepreneurial networks were among the largest within-person changes in the data so far. NetworkConfidence increased significantly by 21.9% (p-upper = 0.055), reflecting increased quality of respondents' entrepreneurial networks: "How confident would you be in the advice given by those people you'd be willing to approach if you wanted detailed feedback and help vetting a new business idea? not at all confident / somewhat confident / moderately confident / highly confident / extremely confident (enough to bet a substantial share of my net wealth by following their advice."
- NetworkTrust increased by an economically significant 8.5% although not yet achieving statistical significance: "How many people would you trust to share potentially high-value intellectual property you'd developed (either in confidence based on a verbal agreement or a signed non-disclosure agreement)? none / 1 / 2-3 / 4-5 / 6-10 / more than 10."
- TrustGame applied the most widely studied measure of trust from experimental economics to the context of trusting others in respondents' business networks to treat them fairly by fairly sharing a 200% investment gain from any amount of $100,000 the respondent had to invest in the other business person's venture (Berg, Dickhaut and McCabe, 1995). This measure of trust has been replicated widely across different countries, professions and social contexts. In this context, the TrustGame metric increased from 32.5 to 38.1, achieving a 17.3% gain over baseline although not achieving statistical significance.
- The risk and uncertainty instruments similarly showed rather large-magnitude percentage gains of 6.5, 9.5 and 22.2% for RiskToleranceSelfDescribed (Dohmen et al.'s (2011) self-assessed risk tolerance), RiskToleranceBoxBombBRET (Crosetto and Filippin, 2013), and UncertaintyToleranceElsberg (Elsberg, 1964), respectively. Only the TimeConsistency

[1] Core Self-Evaluation is associated with entrepreneurial behaviour in senior management roles and a broad array of other positive personal and professional outcomes (see, for example Simsek, Heavey and Veiga, 2010; Johnson, Rosen and Levy, 2008; Chiang, Hsu and Hung, 2014).

instrument's 21.4% increase achieved statistical significance (p = 0.083) although we can expect better signal-noise ratios (extracting real gains achieved from statistical sampling error) will be achieved as more cohorts are included in the sample.

- Large-magnitude gains in the self-assessed likelihood of founding a new startup (12.1% over baseline) and the entrepreneurial behaviour of currently setting up a new business (from 6.7 to 20.0% of respondents, achieving a 13.3 percentage-point gain, or %200.0 over baseline!, p = 0.164) were achieved.
- Finally, Table 2 reports baseline and S2 values of EC_total, which is an equal-weighted average of the 28 ECAT instruments, of 56.8 and 59.6, respectively, achieving a 4.8% total gain (p = 0.106).

The final row of Table 2 shows that respondents initially rated the experience of taking the survey at 67.8 of the available 7-point scale, which fell to 57.8 in S2.

Table 3 (page 8) reports further analysis of the data so far. Highlights include:

- SelfEfficacyASTEE: Significant decrease in variance and increases of 0.6 and 0.3 S1 standard deviations in deviations from the S1 mean and median, respectively.
- FlowAtWork: Significant increase in variance
- FlowAtLeisure: Significant gain over S1 median
- Large increases in NetworkConfidence, NetworkTrust and NetworkConnectionASTEE expressed in units of S1 standard deviations (common in the education literature)
- EC_total increased by 0.5 S1 standard deviations (p=0.056), which would be considered a large-magnitude increase in the education literature.

Table 2: Within-person (paired sample) changes in mean entrepreneurial capability across 29 component instruments of the Entrepreneurial Capital Assessment Tool (ECAT) at baseline (iterative Survey 1 (S1)) and after the first module (iterative Survey 2 (S2))

	unpaired raw sample means						*paired sample means (of individuals with non-missing responses on both S1 and S2)*								
ECAT component instrument	Mean baseline S1	N1	Mean Post S2	N2	SE unpaired	p-val unpaired	Mean baseline S1	Mean Post S2	N	SE matched levels	SE Difference	Mean percentage-point Difference	% Change	p-val	p-upper
individual soft skills															
CoreSelfEvaluation	66.4	25	67.7	18	3.5	0.720	62.9	66.5	15	1.7	1.7	3.6	5.7	0.054	0.027
SelfEfficacyASTEE	82.9	25	85.0	18	2.0	0.308	80.9	83.5	15	1.6	1.6	2.5	3.2	0.137	0.069
EntrepreneurialMindsetASTEE	75.8	25	73.1	18	5.3	0.625	71.1	72.2	15	3.1	3.1	1.1	1.6	0.727	0.364
AdaptabilityASTEE	76.8	25	77.9	19	2.5	0.665	75.6	76.5	16	1.4	1.4	0.8	1.1	0.572	0.286
EntrepreneurialAttitude	76.9	25	78.1	18	5.2	0.818	71.5	75.9	15	4.0	4.0	4.4	6.2	0.284	0.142
Grit	72.4	25	72.2	21	3.2	0.953	71.6	71.9	18	1.6	1.6	0.2	0.3	0.876	0.438
FlowAtWork	57.7	25	55.8	21	3.1	0.542	56.7	54.6	18	2.4	2.4	-2.2	-3.8	0.373	0.814
FlowAtLeisure	64.4	25	65.1	21	2.8	0.799	63.5	65.3	18	1.9	1.9	1.8	2.8	0.360	0.180
entrepreneurial networks															
NetworkSize	56.7	25	54.2	20	6.4	0.700	53.9	53.9	17	2.0	2.0	0.0	0.0	1.000	0.500
NetworkConfidence	58.0	25	58.8	20	7.2	0.917	47.1	57.4	17	6.1	6.1	10.3	21.9	0.110	0.055
NetworkTrust	52.0	25	50.0	20	6.5	0.761	46.1	50.0	17	3.4	3.4	3.9	8.5	0.260	0.130
TrustGame	34.2	25	40.0	19	9.2	0.531	32.5	38.1	16	5.6	5.6	5.6	17.3	0.332	0.166
NetworkInteractionFreq	58.4	25	57.0	20	6.0	0.817	56.5	56.5	17	4.2	4.2	0.0	0.0	1.000	0.500
NetworkConnectionASTEE	81.3	25	82.4	18	3.5	0.758	78.9	82.2	15	3.7	3.7	3.3	4.2	0.384	0.192
tolerance for risk and uncertainty & time preferences															
RiskToleranceLowStakes	45.6	25	44.2	19	9.3	0.883	45.0	43.8	16	4.3	4.3	-1.3	-2.8	0.774	0.613
RiskToleranceHighStakes	37.6	25	33.7	19	8.6	0.650	35.0	31.3	16	6.1	6.1	-3.8	-10.7	0.549	0.726
RiskToleranceSelfDescribed	68.4	25	74.2	19	6.2	0.357	67.5	71.9	16	4.6	4.6	4.4	6.5	0.353	0.176
RiskToleranceBoxBombBRET	36.8	25	44.8	19	7.1	0.263	41.5	45.4	16	4.9	4.9	3.9	9.5	0.433	0.216
UncertaintyToleranceElsberg	28.3	23	36.1	18	8.6	0.367	32.1	39.3	14	11.6	11.6	7.1	22.2	0.547	0.274
Patience	24.8	25	24.1	21	9.1	0.943	24.7	22.9	18	3.8	3.8	-1.8	-7.2	0.641	0.680
TimeConsistency	72.0	25	95.2	21	10.3	0.031	77.8	94.4	18	9.0	9.0	16.7	21.4	0.083	0.041
entrepreneurial intentions and behaviours															
HowLikelySelfEmployed	66.0	25	70.0	19	12.0	0.740	65.3	64.4	16	1.3	1.3	-0.9	-1.4	0.485	0.758
HowLikelyStartup	55.0	25	67.1	19	11.8	0.312	54.4	60.9	16	5.2	5.2	6.6	12.1	0.228	0.114
EC_Erikson	60.5	25	68.6	19	11.4	0.486	59.8	62.7	16	2.9	2.9	2.8	4.7	0.350	0.175
IndependenceFromLabourMkt	67.1	25	71.0	18	9.3	0.678	65.6	67.8	15	3.5	3.5	2.2	3.4	0.541	0.271
IntrapreneurialJob	82.0	25	82.7	18	5.0	0.887	80.4	80.4	15	4.4	4.4	0.0	0.0	1.000	0.500
CurrentBusinessOperator	56.0	25	55.6	18	15.7	0.978	60.0	53.3	15	6.7	6.7	-6.7	-11.1	0.334	0.833
CurrentlySettingUpBusiness	12.0	25	27.8	18	12.7	0.225	6.7	20.0	15	9.1	9.1	13.3	200.0	0.164	0.082
equal-weighted average over 28 ECAT instruments															
EC_total	57.6	23	61.4	18	3.2	0.249	56.8	59.6	14	1.6	1.6	2.7	4.8	0.106	0.053
SurveyExperienceWorthwhile	66.7	25	59.3	18	8.8	0.408	67.8	57.8	15	5.3	5.3	-10.0	-14.8	0.082	0.959

Table 3: Tests for S2-versus-S1 changes in variance, medians, distributions and deviations from S1's mean and median (in units of S1 standard deviations (SD1))

	test of equal variance			*equal median*	*signrank test of equal distributions*		*S2 outcomes normalized with S1's mean & SD or median & SD*			
ECAT component instrument	SD1	SD2	p-val equal SD null, F test	p-val equal p(50) signtest	p-val equal distrbn Wilcoxon exact	p-val equal distrbn Wilcoxon approx	deviation from S1 mean in SD1 units	p-val S2 dev from S1 mean	deviation from S1 p(50) in SD1 units	p-val Zscore dev from S1 p(50)
individual soft skills										
CoreSelfEvaluation	9.4	12.5	0.199	0.227	0.054	0.054	0.5	0.260	0.6	0.161
SelfEfficacyASTEE	8.4	4.9	0.029	0.092	0.068	0.068	0.3	0.017	0.6	0.000
EntrepreneurialMindsetASTEE	16.5	17.8	0.719	0.581	0.628	0.651	0.1	0.825	-0.3	0.280
AdaptabilityASTEE	8.5	8.0	0.805	0.388	0.513	0.536	0.1	0.677	0.4	0.132
EntrepreneurialAttitude	19.2	14.8	0.278	0.549	0.342	0.366	0.2	0.269	0.2	0.353
Grit	10.0	11.2	0.568	0.804	0.694	0.709	0.0	0.921	0.0	0.882
FlowAtWork	7.5	12.6	0.016	0.332	0.394	0.411	-0.3	0.474	-0.3	0.399
FlowAtLeisure	9.3	9.4	0.963	0.210	0.283	0.298	0.2	0.419	0.6	0.049
entrepreneurial networks										
NetworkSize	23.1	20.1	0.550	1.000	0.974	1.000	0.0	1.000	0.2	0.450
NetworkConfidence	27.7	20.3	0.172	0.289	0.132	0.188	0.4	0.063	0.3	0.172
NetworkTrust	25.1	18.7	0.194	0.508	0.290	0.332	0.2	0.420	0.8	0.003
TrustGame	26.4	32.6	0.327	0.625	0.319	0.500	0.2	0.535	0.4	0.159
NetworkInteractionFreq	19.1	20.8	0.681	1.000	0.838	1.000	0.0	1.000	-0.2	0.508
NetworkConnectionASTEE	12.8	9.9	0.271	0.549	0.287	0.307	0.2	0.254	0.5	0.022
tolerance for risk and uncertainty & time preferences										
RiskToleranceLowStakes	26.2	33.7	0.243	1.000	0.910	1.000	0.0	0.891	0.1	0.682
RiskToleranceHighStakes	27.9	28.3	0.927	1.000	0.662	0.723	-0.1	0.615	-0.3	0.249
RiskToleranceSelfDescribed	19.1	21.4	0.587	0.109	0.086	0.098	0.2	0.444	0.1	0.741
RiskToleranceBoxBombBRET	25.4	21.5	0.467	0.146	0.143	0.153	0.2	0.494	0.4	0.083
UncertaintyToleranceElsberg	25.3	28.7	0.573	0.754	0.527	0.754	0.3	0.373	-0.4	0.189
Patience	32.3	29.2	0.654	1.000	0.937	0.906	-0.1	0.810	0.0	0.962
TimeConsistency	45.8	21.8	0.001	0.250	0.083	0.250	0.4	0.008	-0.1	0.331
entrepreneurial intentions and behaviours										
HowLikelySelfEmployed	38.7	39.8	0.890	1.000	0.857	0.813	0.0	0.928	-0.6	0.040
HowLikelyStartup	39.7	38.1	0.869	1.000	0.565	0.531	0.2	0.506	0.4	0.119
EC_Erikson	37.8	37.4	0.978	1.000	0.565	0.531	0.1	0.771	0.0	0.910
IndependenceFromLabourMkt	26.9	32.0	0.426	1.000	0.977	1.000	0.1	0.802	0.2	0.455
IntrapreneurialJob	10.7	19.1	0.009	1.000	1.000	1.000	0.0	1.000	-0.2	0.573
CurrentBusinessOperator	50.7	51.1	0.947	1.000	0.317	1.000	-0.1	0.625	-0.9	0.004
CurrentlySettingUpBusiness	33.2	46.1	0.136	0.500	0.157	0.500	0.5	0.233	0.8	0.082
SurveyExperienceWorthwhile	25.9	30.4	0.465	0.289	0.147	0.164	-0.4	0.255	-0.3	0.310
equal-weighted average over 29 ECAT instruments										
EC_total	11.0	9.8	0.637	0.424	0.198	0.217	0.2	0.322	0.5	0.056

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